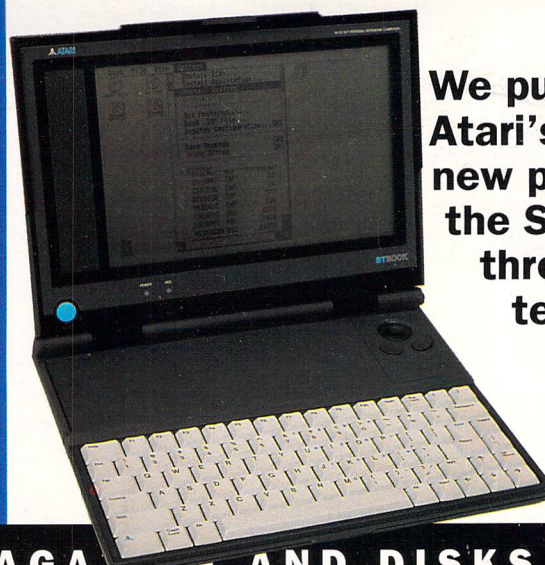


ST FORMAT



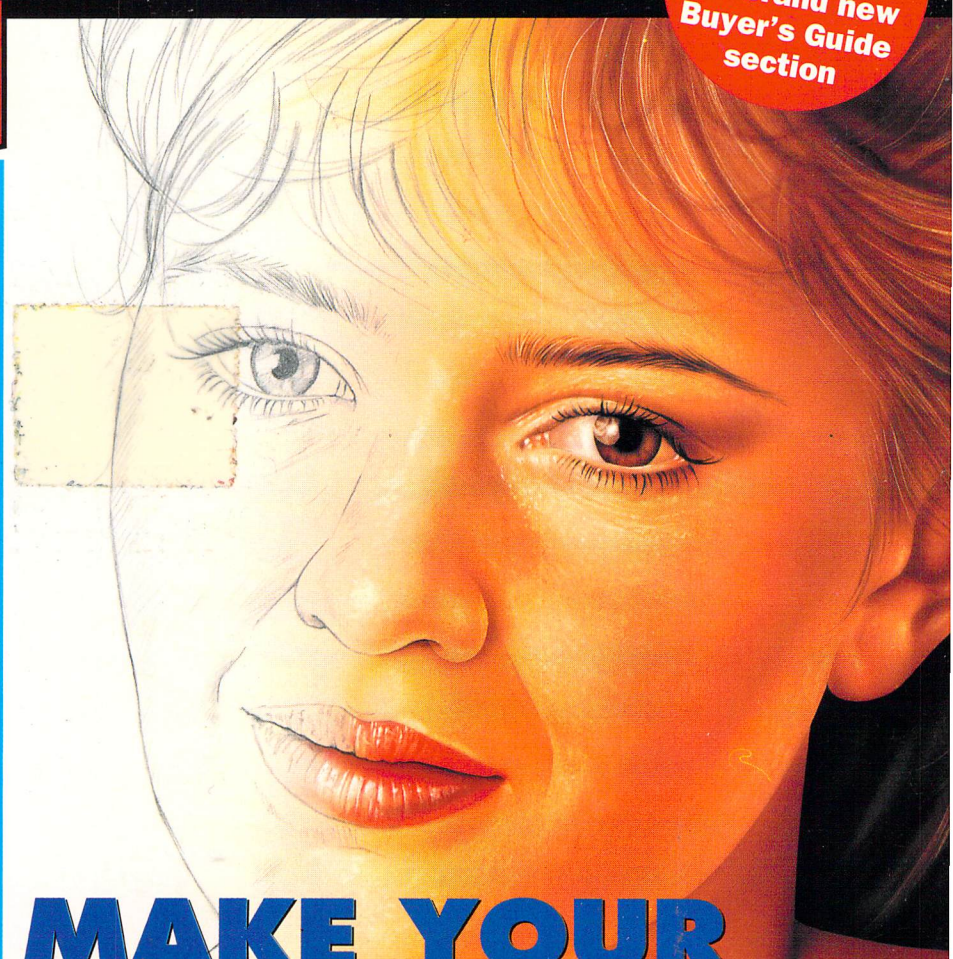
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new portable ST,
the ST Book,
through every
test imaginable –
and it still works!

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GFA Draft Plus 3
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150
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as good as this

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reasons to
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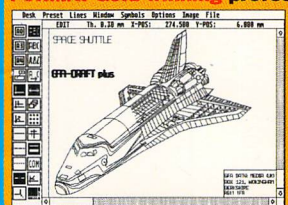
- 150 best buys listed in our Buyer's Guide
- 120 absolutely and totally unbeatable tips
- 34 top ST games reviewed and rated
- 30 PD programs rated – all cost under £4
- 19 hardware and software items reviewed
- 7 complete programs on our Cover Disk



ST FORMAT **GFA Draft Plus 3**

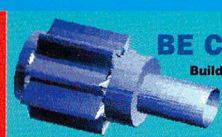
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ST FORMAT



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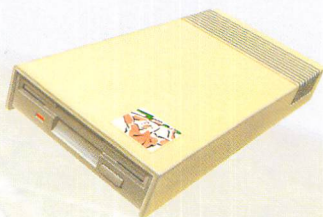
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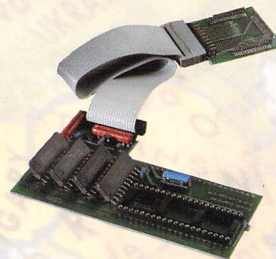
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ICD interfaces are ideal as a start for building your own disk unit. They are compatible with the most powerful ICD hard disk utilities and come with full fitting instructions

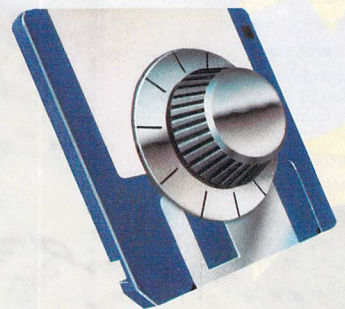
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January - June 1991 65,202

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Who wanted to be mentioned Paddy the cleaner; Wilf
 the security man; Chris, Simon, Simon, Jerome and Jon, the lino
 fenderix the dog... oh, and Stuart the Assistant Publisher

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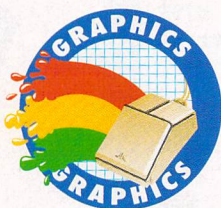
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**A complete 2D graphics
 package worth £100,
 three full art programs,
 step-by-step guides and
 a special tips section –
 it's a graphics bonanza!**

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Your guide to all you can do with GFA Draft Plus
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26 THE ST BOOK

Can Atari's new portable ST solve all your problems?
 We give it the full wax treatment

32 ART FOR ART'S SAKE

Get those pixels pulsating – create
 your own graphic masterpieces
 – and you could win a scanner



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What's the weirdest game you've played? We pick
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Change the outcome of the
 Second World War in our
 playable preview mission
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 our complete 3D program; design
 your own animations and more! See the
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Software for less than £4 a disk! A massive
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Top ST software at amazing knockdown prices!

62 SUBSCRIBE NOW

Get ST FORMAT delivered to your door and you won't
 even need to leave your ST's side! Prices must go
 up soon, so don't say we didn't warn you!

65 TIPS GALORE

Welcome to a new 20-page section of
 tips – games, graphics, upgrading,
 printing – it's all here. We're the
 only magazine to guarantee to
 answer every ST query we receive!



95 SCREENPLAY

All that's new in the ST games world. There's a ton
 of budget releases out this month – see box at right

128 USING WRITE ON

Last month we gave away the complete
 Write On word processing
 package – here's your opportunity
 to make more of it with our guides

135 EDUCATION

A close look at the latest edsoft releases



IT'S HIM AGAIN!



Congratulations! You've just invested in the most packed issue of *ST FORMAT* ever and one that should have lots for everyone! We've got heaps of games reviewed, scores of software packages and hardware under our microscope, one

of the biggest Public Domain sections ever and an appendix on page 122 – *gorgeous!* Leading the parade is our graphics special with the features on the right. If you can't draw by the time you get to page 180, get a shrink!

This month we're introducing a brand new Buyer's Guide section where we've listed 150 ST buys – don't worry, we've checked all the prices and phone numbers so you can be sure the information is up to date. We're also going on the crusade for better ST games. Now's your opportunity to get the software publishers to listen to your pleas for better games. Please take the time to fill out the coupon on page 155 – it could make all the difference. Last month's massive ST Answers section seemed to go down a storm, so we've got another 120 tips on page 65.

Oh, and one more nugget I'd like to mention before you get stuck into the issue – for the next six months we'll be giving away a *complete* package on a second Disk, so seize this opportunity to save money and subscribe on page 62 before our subs prices go up. Happy reading!

Mark Higham, Editor.

138 BEGINNERS

For newcomers to the ST we take a jargon-busting look at Desktop Publishing

142 SEQUENCER ONE

Part two of our guide to making the most of *Sequencer One*

144 COMPO MAIL ORDER

In conjunction with Compo Software, we're offering you some amazing bargains on everything from printer drivers for *Write On* to memory upgrades



147 FEEDBACK

Your chance to get your views across to the Editor – that's him up there! Tell him what you think and he'll return the compliment. The liveliest letters anywhere

162 MUSIC MAIL ORDER

Interested in music? There are some amazing music bargains to be found here

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Everything that's happening next month, a few things that happened this month, and a bit more

SCREENPLAY

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Over 30 ST games reviewed and rated – page 95

THE GREAT ST COVER DISKS

Turn the page now



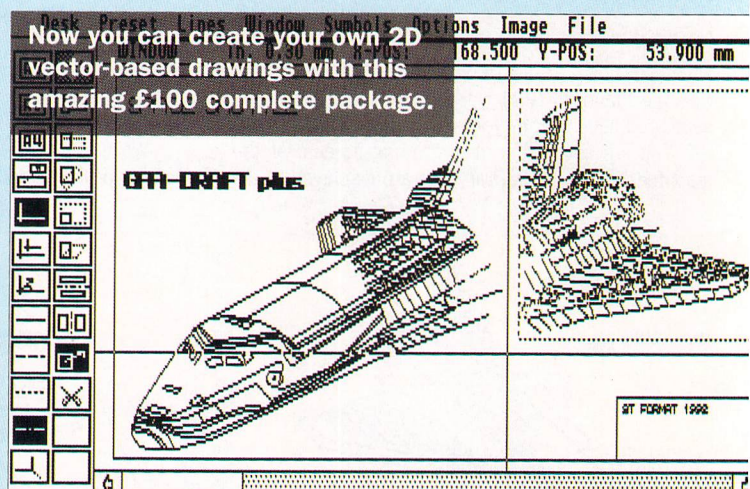
COMPLETELY YOURS!

Last month we gave away a £100 word processor. This month we're doubling that and bringing you a *complete* £100 package. *GFA Draft Plus* is a professional standard 2D drawing package which enables you to create your own plan drawings. Turn the page to find out what it can do and how to use it.



AND THEN THERE'S...

Our regular Cover Disk, packed to bursting with invaluable programs – this month including:
 ● A fully playable preview mission of *Empire's* forthcoming *Campaign* strategy game
 ● *Complete* animation, art and 3D modelling programs
 ● Three indispensable utilities and much more
 Turn to page 14 for full details



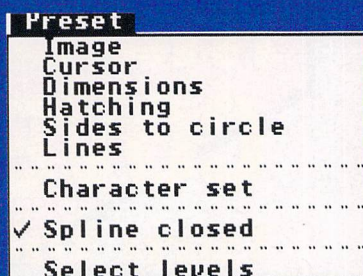
Make the world a safer place with this month's playable preview of *Campaign*. Could this be the only strategy wargame worth playing? Find out for yourself!



A GUIDE TO THE MENUS

NEED A MANUAL?

To get the most from GFA Draft Plus, the manual is a necessity. You can get it from GFA Data Media (UK) Ltd, Box 121, Wokingham, Berkshire RG11 1FA ☎ 0734 794941. It'll cost you a mere £25.00 including postage and packing.



● The Preset menu enables you to set up the program parameters to suit your own preferences.

PRESET MENU

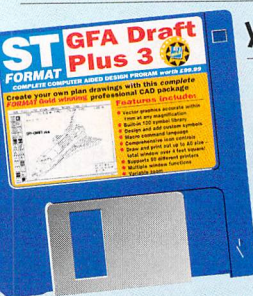
Image: sets up image parameters, grid size, scale
Cursor: defines the cursor type and movement
Dimensions: defines the way dimension lines are displayed
Hatching: controls the styles of hatching used in the program
Sides to a circle: defines the number of lines used to make up a circle. If you use low numbers, regular polygons can

be drawn. Three sides create a triangle, four sides a square, and so on
Lines: selects the line's thickness
Character set: determines the character set options, sets path for third set
Spline closed: selects between open and closed splines
Select levels: enables you to assign drawings to each of the ten work levels and assign a different ink colour to each level of a multi-layered drawing

GFA Draft Plus 3.0

ST FORMAT proudly presents *GFA Draft Plus v3.0*, the latest version of this powerful general purpose Computer Aided Design program worth £100 – yours for only an extra pound on this month's Cover Disk. Clive Parker guides

you through the basics of creating professional quality drawings on your ST



GFA Draft Plus 3.0 is a very powerful Computer Aided Design (CAD) program. Now you can produce detailed designs of anything you fancy – from plans for re-designing your kitchen or bathroom to your latest all-singing, all-dancing flying and floating motorised bicycle. Gone are the days of all that incredibly fiddly protractor measuring, constant pencil sharpening and frantic rubbing of holes in the paper. GFA Draft Plus 3.0 is enough to inspire the least likely technical drawing enthusiast to get planning immediately!

HOW TO GET STARTED

When you load up the program, you are presented with the standard GEM fileselector box. Type in the name you have chosen for your picture, then click on OK. You are now in the main drawing screen. All the main functions of GFA Draft Plus are displayed at the

left-hand side of the status bar at the top of the work area. The initial message displayed is Edit – you can only draw lines while you are in Edit mode. From all other drawing modes you use, you can exit by clicking the right mouse button until Edit reappears in the status line.

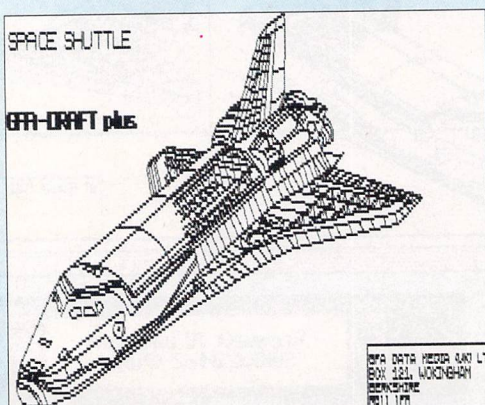
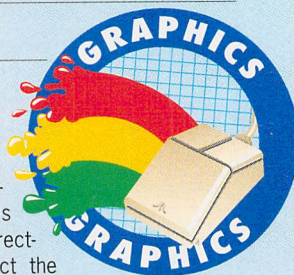
First, get to grips with the basic functions, starting with simple line drawing. Click once anywhere in the work screen with the left mouse button – this fixes the starting point of a line. Move the mouse about and you notice an elastic line stretching from where you clicked to the present cursor position. If you click the right mouse button, the line disappears – this is how you exit from the Line Drawing function. If you click the left button instead, the line is drawn where it is. When you then move the mouse, another elastic line is generated from the point where you last clicked to the new cursor position. By drawing linked lines in this way, you can build up polygons. Click the right mouse button at any time to finish drawing lines.

While you're in Line mode, try clicking and then holding down the left mouse button. Instead of draw-

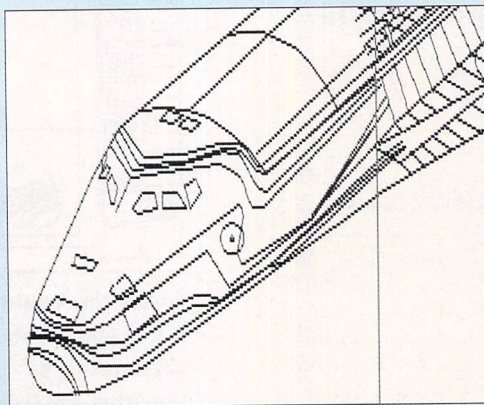
ing lines, you can now draw freehand shapes directly to the work area.

GFA Draft Plus can create geometrical shapes such as circles, squares, rectangles and ellipses. Select the Options menu and click on Draw Rectangle. Move the cursor to the position where you want one corner of the rectangle to start, click the left mouse button and hold it down. Move the mouse and an elastic rectangle made up of dotted lines appears. Circles and ellipses are drawn in the same way – select Draw Circle or Draw Ellipse from the Options menu.

To place labels and comments onto a drawing, make sure you're in Edit mode, move the crosshairs to where the text is to begin, then simply type in the text from the keyboard. If you make an error, use the backspace key to delete the last character. Keep pressing the backspace key and you keep deleting all previous actions in reverse order, including lines and



● With GFA Draft Plus, you can create highly detailed drawings like this. It's a perspective drawing, not a true 3D image you can rotate and view from all sides, but it is a vector image, so you can enlarge it with no loss of detail.



● You can zoom in and see all the details. Because the image is stored as a set of data rather than as a picture, it is not enlarged but redrawn at each magnification, so it remains accurate within 1mm at any size! (Subject to screen resolution, of course!)

GET STARTED IN GFA DRAFT PLUS

Follow these simple instructions to get you started using GFA Draft Plus. A simple kitchen floor plan is as good a place as any to start.

WHAT ELSE CAN IT DO?

There are many other useful functions to be found in GFA Draft Plus, including shading of enclosed areas with hatching, entering construction lines to help measure dimensions, automatic generation and insertion of dimensions and perpendicular lines, definition and storage of labels. Splines with up to 180 points can also be defined. There's no space here to cover all these advanced functions, so watch for more in future issues of ST FORMAT.

Lines

```

Guide lines X
Guide lines Y
.....
Break lines
Trim lines
Join lines
Lengthen
.....
Parallel
Tangent
Select

```

● The Lines menu enables you to access the various line functions available within *GFA Draft Plus*.

LINES MENU

- Guidelines X:** places a horizontal guide-line on the drawing
- Guidelines Y:** places a vertical guide-line on the drawing
- Break lines:** separates two intersecting lines into four separate lines
- Trim lines:** trims the ends off two overlapping lines
- Join lines:** joins two lines which meet at their end points to form one line
- Lengthen:** drags the end of a line to a

- new position – the line follows its original direction
- Parallel:** draws a line parallel to an existing line
- Tangent:** produces a tangent to a circle
- Select:** selects lines to be edited in a separate window

THE WORK AREA

The main workscreen of *GFA Draft* consists of four main areas – the icon bars on the left, the drawing window, the GEM menu bar and the status bar at the top of the drawing window. The status bar shows the current drawing mode, the line thickness and the x and y coordinates of the cursor.

The current drawing mode. In this case, Rectangle is selected

The current line thickness in millimetres

The cursor's x coordinates in relation to the bottom left corner of the drawing

The cursor's y coordinates in relation to the bottom left corner of the drawing

The picture size is set to A4

The current coordinate setting is set to Relative Coordinates

This highlighted icon shows that solid lines have been selected

When this is selected, there are GEM scroll bars down the right side and along the base of the drawing area

The thickened character set is selected

Proportional text spacing has been selected

This icon switches the grid on and off

When this is selected, the actual line thickness is displayed in the drawing

objects. But beware: once something is deleted it is gone for good, so don't go mad with the backspace key.

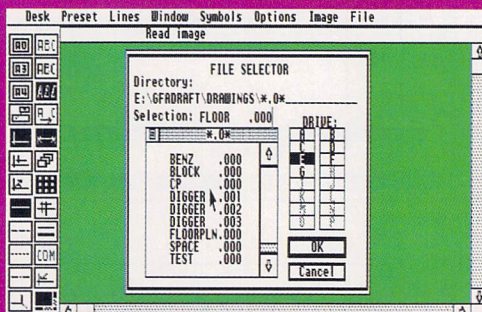
To save a new drawing, go to the File menu and select Save Image As... The GEM fileselector appears. Enter the name of your file (up to eight alphanumeric characters) with a filename extension of .0** (zero followed by any two numbers). If you are going to make a series of linked drawings, it is

useful to give them consecutive numbered extensions, starting with 000, then 001, 002 and so on, up to 099. If you try to save a picture using a name that already exists, the program changes the existing file's extension to .BAK, so you don't lose it.

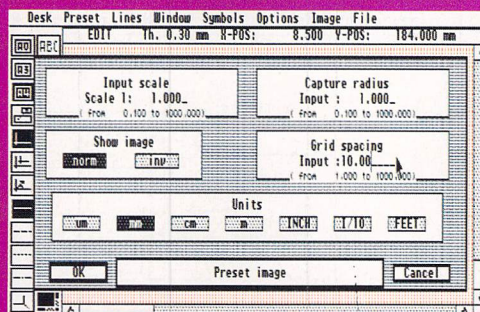
To save a drawing that already has a filename – a drawing you have loaded in, say – go to the File menu and select Save Image. The drawing is saved directly to disk using its previous path name, bypass-

ing the GEM fileselector. All the current program settings are saved to disk with the drawing in an .INF file with the same filename as the drawing. This .INF file is automatically reloaded with the image the next time you open it.

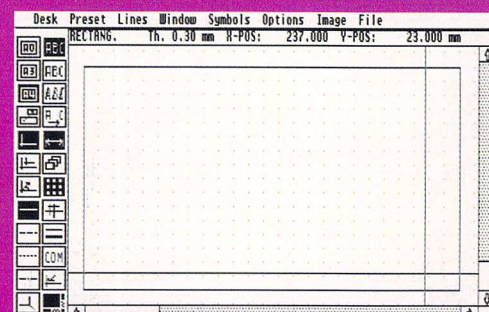
If you are not happy with the drawing you have produced, go to the File menu and select Delete Image. An alert box asks if you are sure you want to delete. Be careful that you don't use the Delete File



1 Load the program and select the name for your drawing in the GEM fileselector – Floor.000 is a logical name.



2 Move to the Option menu and select Zoom work-window. Select 0.500 scale. Now go to the Preset menu and select the Image function. Set the grid spacing to 10mm and hit OK.



3 Click on the grid icon in the second row of icons – the seventh icon down. Select Draw Rectangle from the Options menu and draw a rectangle in the work window – one grid square in from the edges. This is to be the outer wall of the house.

Window

Delete contents
Zoom contents
Rotate 90 degrees
Rotation in degrees
Stretch/compress
Skew
Reflect in Y-axis
Reflect in X-axis

Copy
Move
Cut
Extract
Delete objects

Window manipulation
Text
Lines

● Commands in this menu control the powerful window and block functions.

WINDOW MENU

Delete contents: permanently deletes the current window contents

Zoom contents: magnifies or scales down a marked window

Rotate 90 degrees: rotates a selected window by 90° anti-clockwise

Rotate in degrees: rotates window by a set number of degrees

Stretch/Compress: enlarges or reduces the size of a window

Skew: distorts a window

Reflect in Y axis: reflects a window left to right

Reflect in X axis: reflects a window top to bottom

Copy: copies a window to another part of the drawing

Move: moves a window to another part of the drawing

Cut: cuts all the drawing in the window

Extract: cuts out only complete lines within a window

Delete objects: deletes single lines or the entire window

Window manipulation text: all window actions affect text if this option is selected

Window manipulation lines: all window actions affect lines if this option is selected

option in the File menu by mistake – that erases files already saved to disk.

To reload a previously-saved picture, go to the File menu and select Read Image. The GEM fileselector appears. Select the drawing name and click on OK to load it in. Your picture soon appears on-screen. To exit from the program, go to the File menu and select Quit. An alert box asks if you wish to save your drawing. If you decide not to save, another alert box asks you if you wish to quit. Select Yes to exit.

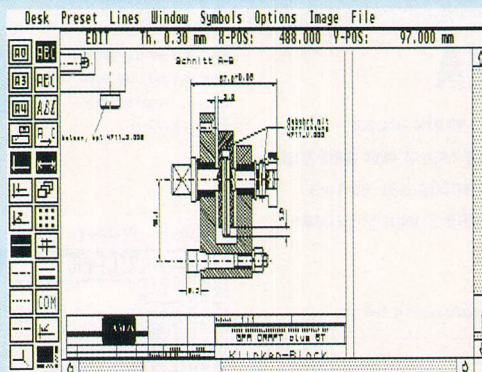
THE MAIN FUNCTIONS

SWITCHING MODES

The current mode is displayed at the left end of the status bar at the top of the workscreen. When you load a file into GFA Draft Plus, the initial mode is Edit, so you can edit any element of your drawing. You can enter text and use the Window options – see above. A click of the left mouse button switches to the Line mode. To exit from any mode and return to Edit, click on the right mouse button until the status bar displays Edit again. All drawing modes can also be accessed from the Icon bars down the left side of the screen – see opposite. To switch to Line mode from any other drawing mode, return to Edit first.

THE MOUSE POINTER AND THE CURSOR

The pointer has various shapes in GFA Draft Plus. If you move the cursor out of the drawing area, it becomes the normal arrow; within the drawing it becomes one of two types of crosshair. To choose which type, go to the Preset menu and select Cursor. The Cursor type dialog box enables you to select between crosshairs – two crosses (++) for the large



● This is the sort of thing CAD packages were invented for – taking the tedium out of detailed technical drawings. GFA Draft Plus makes it easy – and as precise as the finest draughtsman could hope for!

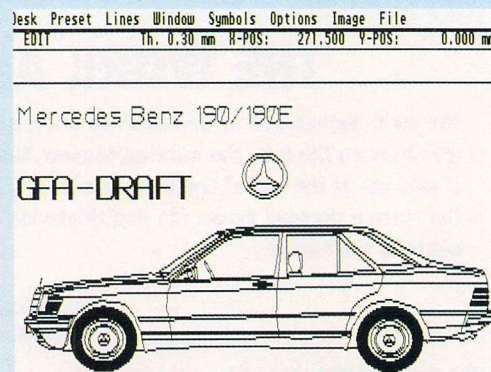
crosshair and one cross (+) for the small crosshair. To line up objects and lines precisely, it is generally easier to use the large crosshairs.

Also in this dialog box is the option to set the cursor increment by using the Mouse step size field. The cursor increment is the amount that the crosshairs move on the drawing, the smallest jump being a tenth of a millimetre. To adjust the increment, click on the field and enter a new step size.

The crosshairs can also be controlled by the cursor keys. The increment size for crosshair movement can be set to much finer levels for cursor key control, with steps as low as two hundredths of a millimetre (0.02mm). You can edit the field in the same manner as the mouse step field size.

COORDINATE SYSTEMS

The status line also shows the position of the cursor in the drawing in the current measuring units. There



● Of course, you don't have to limit yourself to technical drawings – GFA Draft Plus is powerful enough to cope with anything you throw at it. The only limit is... er, the laws of copyright, probably.

are three different modes of cursor coordinate display.

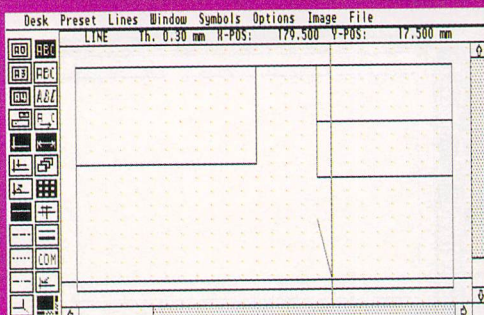
① **Absolute** Coordinates give the position of the cursor in relation to the bottom left corner of the drawing. All coordinates have positive values.

② **Relative** Coordinates give the position of the cursor in relation to the last point plotted on the drawing – it becomes the zero reference. Coordinate values may have positive or negative values.

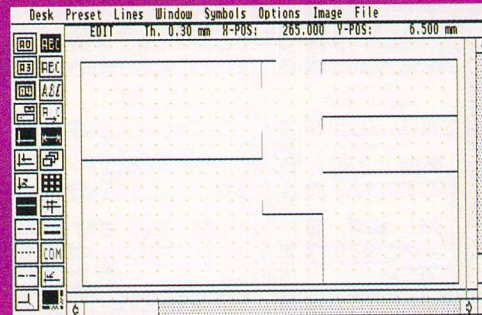
③ **Polar** Coordinates are also plotted in relation to the last point plotted, except that they are shown as a distance and an angle from the last point. An angle of zero degrees is directly to the right of the last point, and all angles above zero degrees are anti-clockwise.

LINES

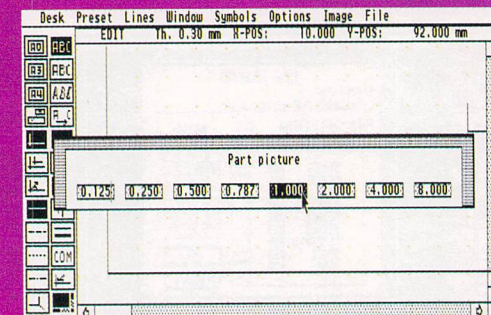
You draw lines by clicking in the work area with the left mouse button while in Edit mode. You can place vertical and horizontal lines accurately by using the



4 Using the Line and Rectangle functions you can draw in rooms as you like...



5 ...until you have a layout of rooms you are happy with. Or at least, one that looks like your house. (If you aren't happy with it... well, you've got the right program to start doing something about it!)



6 Go to the Options menu and select Zoom work-window again and set the scale to 1.000. Set the grid spacing to 2mm by means of the Image option in the Preset menu.

Symbols

Store symbol
Load symbol
Delete symbol
Rename symbol
Funct. key settings

● There is a large symbol library available which can be accessed through this menu. You can design your own symbols to use within drawings.

SYMBOLS MENU

Store symbol: saves part of a drawing as a symbol

Load symbol: loads a symbol from the library

Delete symbol: deletes a symbol from the disk

Re-name symbol: re-names a symbol on the disk

Function key settings: shows function key assignments

Options

Draw circle
Draw ellipse
Draw rectangle
.....
Draw circle segment
Draw ellipse segment
Arc 3 points
Round corners
.....
Perpendicular
Angle to a line
Hatch
Construction lines
Dimension
Commands
Entries
Status
Spline

● The Options menu gives you access to the main drawing functions and also to drawing aids such as dimension and construction lines.

OPTIONS MENU

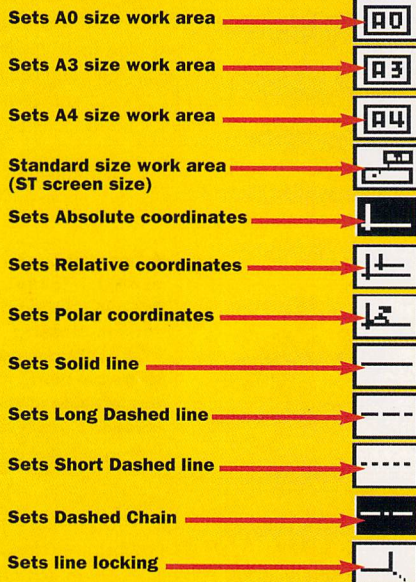
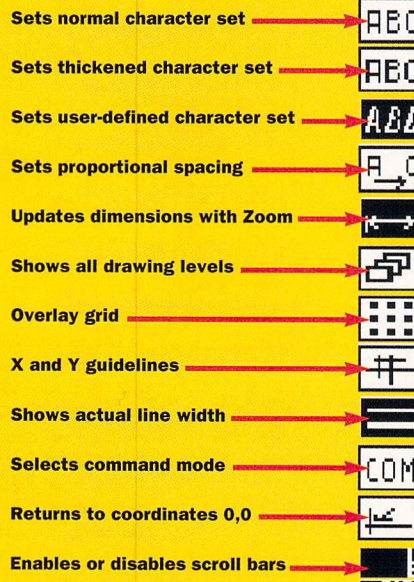
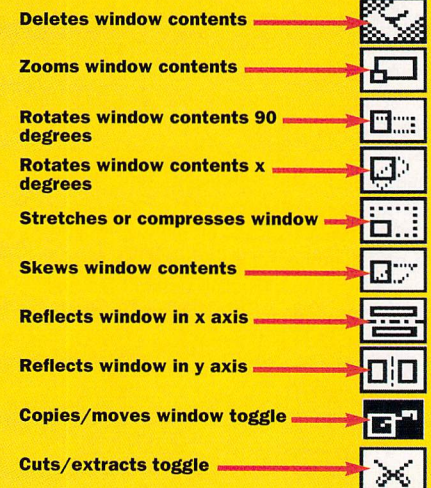
Draw Circle: draws regular circles made up from as few as three lines up to 180 lines

Draw Ellipse: identical to the Circle function except the output is irregular

Draw Rectangle: draws a rectangle

Draw Circle segment: draws a circle as normal, except you click on the circle at the start of

ACCESSING FUNCTIONS THROUGH THE ICON BARS

FIRST COLUMN**SECOND COLUMN****THE WINDOW ICON BAR**

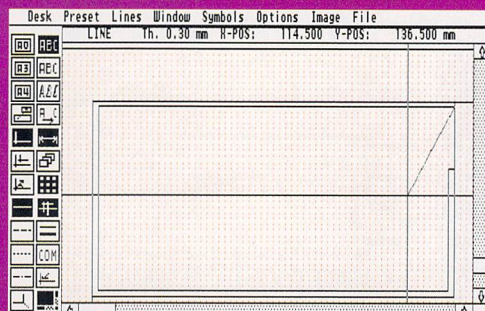
large cursor for positioning. For accurate measurement of lines, use the Relative and Polar coordinate systems. You need to be able to make lines meet exactly. In some cases, the program can help with this by using the Capture function. The bottom icon on the left-hand icon bar selects this option. When it is active, the program automatically looks for a line within a certain radius of the line you are drawing. If there is another line's end point present, then the two

lines are joined. The capture radius can be adjusted using the Image option in the Preset menu between 1mm and 1,000mm.

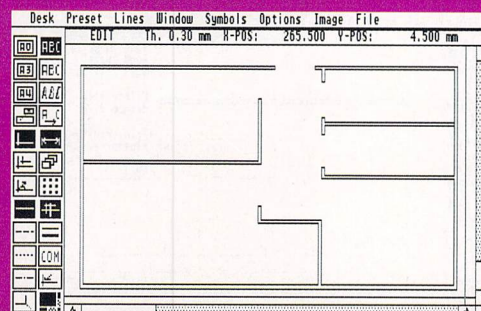
You can lengthen or shorten lines by using the Lengthen option from the Lines menu. Select Lengthen and position the cursor on the end of the line you wish to alter. Press and hold down the left mouse button. Moving the mouse lengthens or shortens the line. When the length is correct, release the

mouse button, then fix the line with a single click. Note that the direction of the line cannot be altered – just the length is affected.

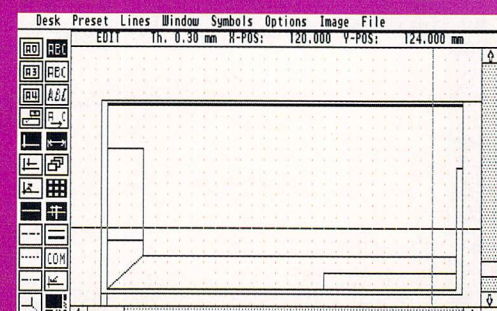
The line thickness can be set using the Lines function in the Preset menu in a range from 0.3mm to 4.5mm. The actual thickness of the line can be displayed on-screen, although this tends to make the display look confusing. The fourth icon from the bottom of the second icon bar toggles this function on



7 You may notice that, although you used the 10mm grid as a guide, some of your lines do not actually lie on the grid itself. This makes no difference to what you are doing. Make the lines representing the walls 2mm thick to add some solidity to the drawing.



8 Zoom out to 0.5 scale using the Zoom work-window function to get an overall view of the drawing. Remove the grid by clicking on its icon.



9 Decide which room you are going to use as the kitchen and zoom in to 1.000 scale again.

the segment, keep the button held down and move the cursor anti-clockwise to draw the segment

Draw Ellipse Segment: identical to the circle segment function

Arc three points: click three times to create an arc

Round corners: links two lines with a rounded corner

Perpendicular: draws a line perpendicular to a selected line

Angle to a line: draws a line at a

defined angle to a selected line

Hatch: fills an enclosed area with a hatching pattern you have defined

Construction lines: enables parallel identical construction lines to be generated

Dimension: inserts a dimension line between two construction lines and automatically inserts the correct dimension length

Commands: if this option is active, keyboard shortcuts can be entered

Entries: enables a label to be entered and printed repeatedly in a drawing

Status: click on a line in this mode and information about the line is displayed in an alert box

Spline: draws a curved line which can pass through up to 180 points

Image

Zoom work-window

Functions affecting the whole image
Move image
Delete image
Free image memory
Zoom image
Rotate 90 degrees

● The Image menu functions give you control over the entire image.

and off. Using the left-hand icon bar, you can select the type of line drawn – Unbroken, Long Dashed, Short Dashed and Dashed Chain. The line type selected affects almost all the other drawing modes.

To separate two intersecting lines into four independent lines, go to the Lines menu and select Break Lines. Click on the two lines one after the other to split them and the lines can then be worked on independently.

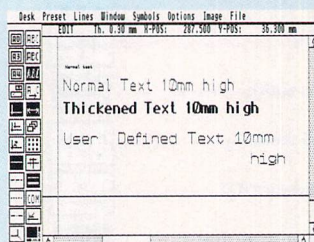
The opposite function to this is Join Lines. This only joins lines that meet exactly at their endpoints – it must be used to join lines that enclose an area to be shaded by hatching. The Line Capture function can be used to ensure that lines meet exactly. Once you have selected Join Lines, click on the two lines to be joined one after the other – the second click fixes the join.

The Trim Lines function cuts off the ends of overlapping lines. Select Trim Lines from the Lines menu and then click on the section of each line to be erased. Both sections must be on the same side of the intersection.

left and the shape is cancelled. To alter the size before fixing, hold the left button down once more instead of clicking and the shape again becomes elastic.

Because *GFA Draft Plus* draws using vectors, it makes up circles out of joined straight lines (very very small ones). Consequently, you can alter the shape of circles by altering the number of sides used to construct them. To do this, go to the Preset menu and select Sides to a Circle. Because ellipses are also formed in the same way, the Sides to a Circle option has the same effect on the shape of any ellipses drawn. You can exit from all these drawing modes by clicking the right mouse button until Edit appears in the status line.

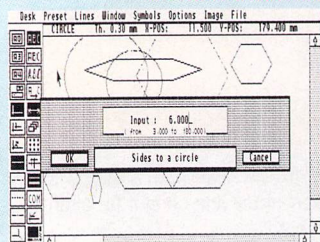
LABELLING AND TEXT



● The three styles of character set supplied with *GFA Draft*. The user-defined set can be redesigned at will. That's what "user-defined" means. Uncanny, we call it.

To enter text into a drawing, make sure you are in Edit mode, position the cursor where you wish the text to begin and type it in. You can use the <Return> key to end lines as normal, causing the cursor to jump back to the first column and down one line. You can set the size of the type by going to the Preset menu and selecting Character Set. There are eight preset character sizes – each can be defined individually. Note that if you change a preset text size, any text of that size which already exists in the drawing is also altered automatically.

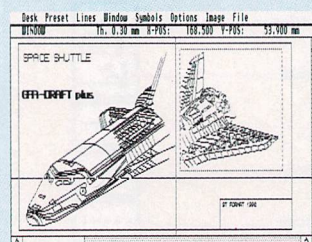
CIRCLES, ELLIPSES AND RECTANGLES



● The Sides To A Circle dialog box. Enter 6 as the number of sides to compose a circle and you get a six-sided circle next time you draw one – a hexagon to you or me.

Go to the Options menu and select the shape you want, then draw it by clicking and holding down the left mouse button. Once the shape reaches the size you want, release the button. You can now click once to fix the shape. Click the right button instead of the

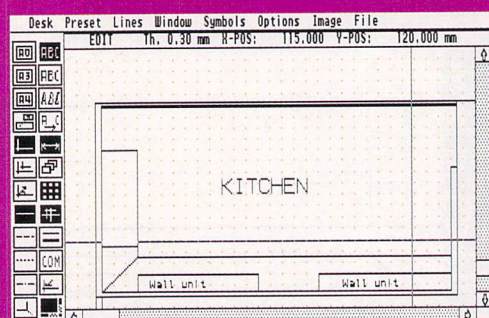
THE WORKING AREA AND DISPLAY



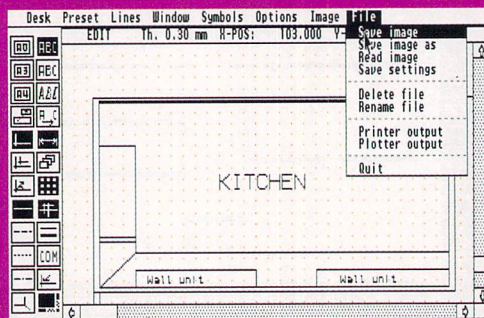
● The work area expanded to the full width of the screen. Pressing <Tab> restores the icon strip down the left side of the screen.

The maximum drawing size in *GFA Draft Plus* is 1,365mm x 1,365mm – which is obviously much larger than the screen area. You can zoom in and out of the area displayed using the Zoom Work Window option from the Image menu. The dialog box presents eight preset zoom settings, which you can redefine. Click on the zoom factor you require and you automatically exit from the dialog box. You can also zoom in or out by clicking on the first four icons in the left-hand menu bar.

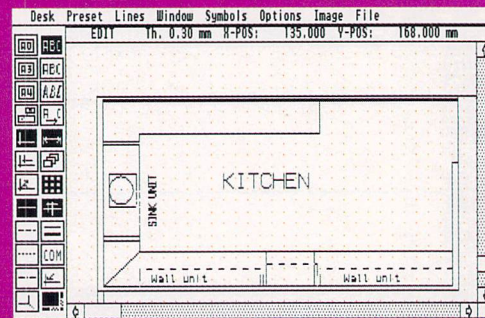
You move around the work area using the scroll bars at the bottom and the right of the workscreen. The bars can be switched off using the bottom icon in the right icon bar, which has the effect of increasing



10 Change the grid spacing to 4mm and switch it back on. Start drawing in your worktops, cupboards, sinks and so on. Keep them all to the same width. The width is three grid units in this drawing.



11 To label the room as the kitchen, go to the Preset menu, select Character Set and set the height of the letters to 5mm. Then just type in the text. Using smaller scale letters, label the wall units and appliances as you go along. Text can be rotated through angles of 90° at a time in the Character Set dialog box.



12 Save your work regularly to disk, using the options in the File menu. Saving at about ten minute intervals prevents massive data loss if the worst should happen.

IMAGE MENU

Zoom work window: selects one of eight zoom scales

Move image: re-positions your drawing

Delete image: erases the current drawing from the screen

Free image memory: displays memory available for drawing

Zoom image: increases or decreases the scale of your drawing

Rotate 90 degrees: whole drawing is rotated anti-clockwise by 90°



Options for loading and saving files are in this File menu. The printer output program is also accessed from here.

FILE MENU

Save image: saves the drawing with its current file name

Save image as: saves the drawing with a file name of your choice

Read image: loads a drawing into the work area

Save settings: saves the current setup in the file GFADRAFT.INF. This file is loaded automatically the next time a new drawing is started

Delete file: erases files from disk

Rename file: changes the name of a previously saved file

Printer output: calls the PRINTER.PRG for dot matrix printout

Plotter output: calls the PLOTTER.PRG for plotter printout

Quit: exits the program with two dialog boxes – the first asks if you wish to save the current drawing, the second confirms that you wish to exit

BUST THAT DRAFTIN' JARGON

Absolute Coordinate: the distance from the bottom left corner of the work area to the current cursor position

Capture Radius: the distance around the cursor within which lines are automatically connected together

Construction Lines: short lines drawn from the object to be measured, between which the measurement arrows are placed.

The width of a door could be shown using construction lines

Dimension: Click on two construction lines while in Dimension mode and arrowed lines are placed between them, along with the distance between them

Grid Overlay: a gridwork of dots can be overlaid on the screen to aid with precise placing of lines or other objects

Guide Lines: vertical and horizontal lines can be placed on the drawing to aid placing objects

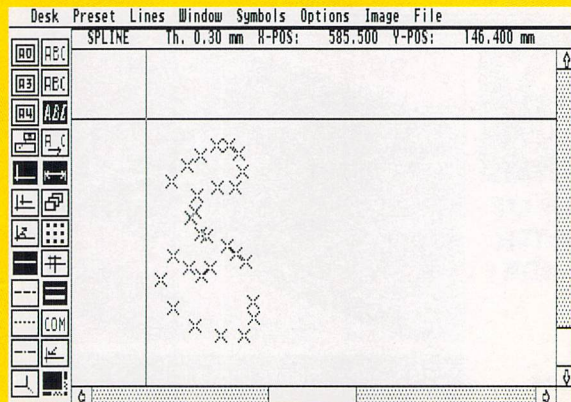
Hatching: a method of shading in areas of a drawing with parallel lines

Polar Coordinates: the distance from the last point plotted expressed as an angle and a distance. 0° is horizontally to the left of the last point plotted, with greater

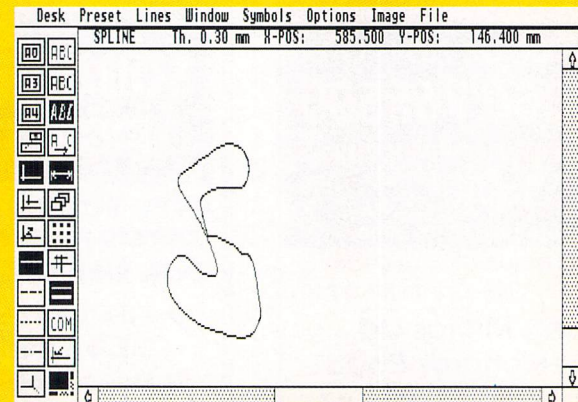
angles being measured in an anti-clockwise direction.

Relative Coordinates: the distance from the last point plotted expressed as x and y coordinates

Spline: a curved line generated by plotting many points on the screen which are then joined together. The end points may be joined (spline closed) or left open.



The initial points for the spline plotted on the work area...



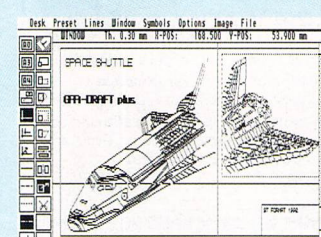
...and the spline points joined into a curved line.

the work area. It can be enlarged even further by pressing <Tab> – this removes the icon bars so the work area fills all the screen apart from the menu bar. In order to restore the icons, press <Tab> once more.

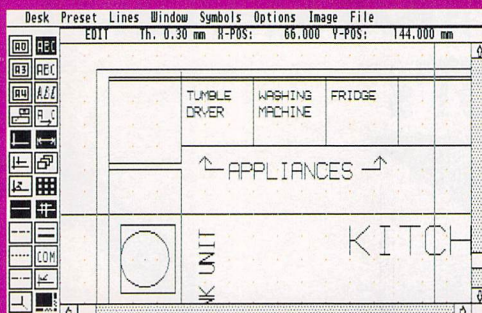
WINDOW FUNCTIONS

When you are in Edit mode, you can drag a box around an area of the screen – this acts as a block

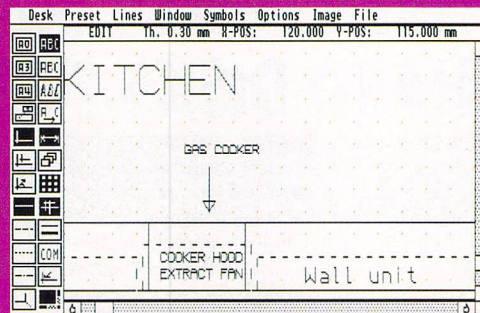
cut and paste window. The status line then changes to Window and an alternative second icon bar appears in place of the default one. You can perform many functions on windows both from the icon bar and from the Windows menu. Windows can be rotated, mirrored, copied, moved, compressed, stretched and saved as symbols to be used in future drawings. See the boxes on these pages for details of the menu and icon functions. *stf*



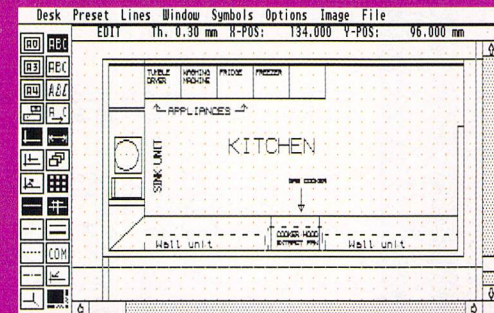
The space shuttle with a rather large chunk taken out of its tail using the Window function. Note the alternative icon bar with the Window functions.



13 Keep adding more units until your kitchen is absolutely stuffed with all the modern labour-saving devices you can think of. Arrows can be drawn in to label objects too small to be have text on them clearly legible.



14 You can use the Zoom work-window option to go into even more detail on your drawings – labels and text can be very small indeed. Tiny details such as taps or power points can be added at higher magnifications. Since GFA Draft Plus is vector based, no details are lost at any magnification – the drawing is saved as a set of data rather than as an image.



15 When you have finished adding all the details you want, zoom back out to 0.5 scale and turn off the Grid function. Save your drawing either under its present name or a new one. You can now continue to design the details for the rest of the house!

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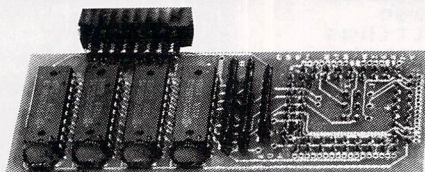
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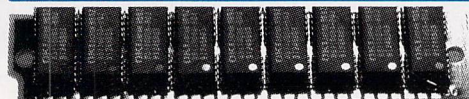
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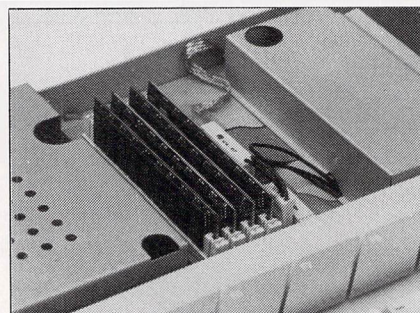
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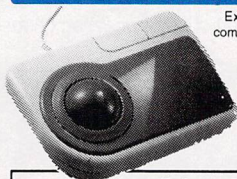
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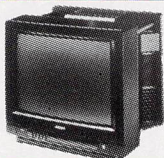
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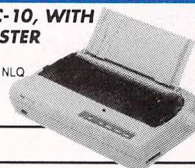
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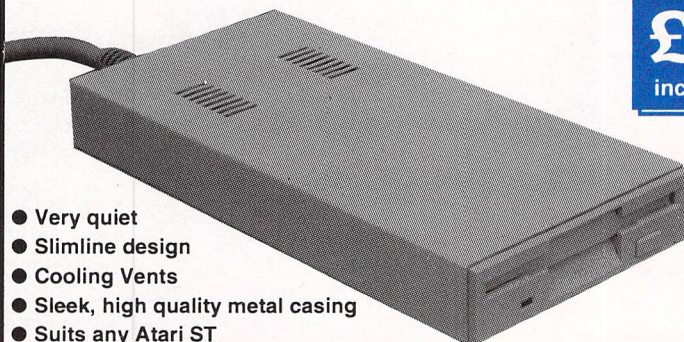
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CAMPAIGN

Heavy metal thunder! Play General in a

complete playable battle from Empire's

new WWII tank clash



Cover Disk 34

Once again *ST FORMAT* has scoured the world for top ST software to bring you – and this month we're giving you a *complete* playable game level, four *complete* programs and three *complete* utilities, plus a few *completely* special extras, so the word has just got to be... er, hang on, it's on the tip of my tongue... Chris Lloyd guides you through this month's *fantastic* Disk (no, wait, that's not it...)

**NOW
YOU CAN
BACK UP YOUR
DISK IN ONE
SIMPLE
STEP!**

What's on this here Disk, then?

Campaign – Complete fightable battle from Empire's action-strategy tank clash

Graphics special

Volume – Complete! Exclusive! Stunning 3D objects made easy! **Page 16**
● See the feature on page 48

Canvas – Complete! Updated *FORMAT* Gold winning art package. **Page 16**
● See this issue's special feature on page 32

Intro Designer – Complete! Exclusive! Competition-winning animation and sound program **Page 17**

Trendy Handy Randy Hendy Bendi Mandy – The title says it all, really, except that it draws fractals at lightning speed! **Page 18**

Sequencer One Compo Winner – Er, the winner of our "Compose a song with Sequencer One" comp, prob'ly. **Page 16**
● See the latest part of our Sequencer One guide on page 142

Key Show – Handy Accessory to add to Write On, last issue's complete word processor, to help you get at all those exotic characters in every font **Page 18**
● See part two of our Write On guide on page 128

DC Right Double-Click – Double-click by clicking only once! **Page 21**

Back-Up – Indispensable utility makes backing up your Disk a doddle **Page 15**

STOS MIDI Extension – Complete interpreter and compiler extension to enable STOS to get to grips with MIDI – just add your copy of STOS **Page 21**

STOS listings – Four brilliant programs to go with this month's STOS surgery **Page 15**
● For full details, turn to page 74.

Campaign

BY: EMPIRE

RESOLUTION: LOW ONLY

FOLDER: CAMPAIGN

FILES: BATTLE.TOS, CLICK_ME.TOS,

DEMO.MAP, ENGINE.SND,

EXPLOS.SND, TURRET.SND

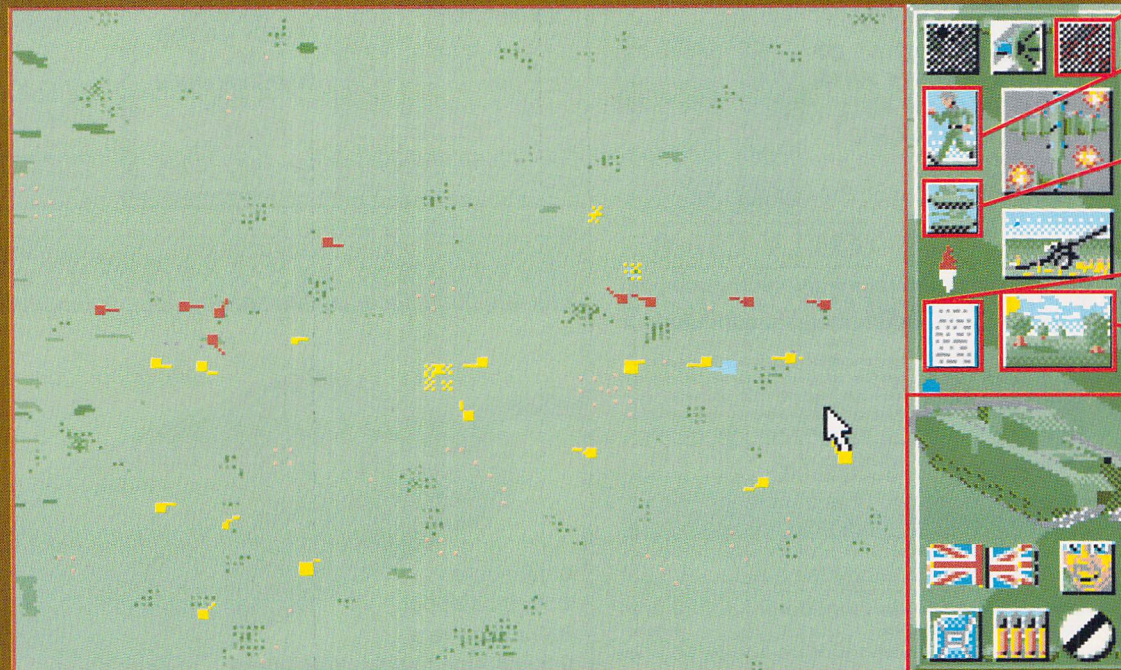
GET STARTED WITH: CLICK_ME.TOS

The **light mist** of dawn slowly lifts and the fog of war descends as the clanking machines manoeuvre into position, ready to fight it out in the fields of northern France. *Campaign* puts you in control of your own force of armoured vehicles. This Cover Disk preview gives you one complete battle from this epic

strategy/arcade wargame. Play General with a force of British and American tanks as they take on the German Panzers. The game's still in development, so it's a little temperamental in 3D mode. If it crashes, just reset your ST and try again! Charge in and hope for the best, or dig in and shoot it out? You choose!

THE FIELD OF FIRING

This is your main campaign map. From here you play General and guide your tanks into the battle. You're the yellow ones, the Germans the red, and the little lines show the orientation of the tanks' hulls. Click on one of your fellows and he turns blue and a little piccie appears bottom right. Now click with the right mouse button to set the destination for that tank and all the others in that battle group.



FOR FULL DETAILS OF THIS ISSUE'S FANTASTIC SECOND DISK,

EVERYTHING YOU REALLY NEED TO KNOW BEFORE YOU BEGIN

Protect yourself!

To keep your Cover Disk absolutely safe, keep it write-protected by moving the little black tab so you can see through the hole. Nothing can now be written to your Disk, so there's no chance of you accidentally writing over or deleting any precious data. This also keeps your Disk completely safe from viruses. The Disk is guaranteed virus-free, so don't take any chances.

Read all about it!

Space on the Cover Disk pages is limited, so you may often find text files on the Disk with more information. These have the file extension DOC – the three

letters after the full stop. It's always a good idea to read these for more information on the program. Just double-click on them and select Show to display the text on-screen. If you find that half the text disappears off the right-hand side of the screen when you try to read a DOC file in low resolution, then change to medium resolution and try again.

Back it up – the easy way!

To keep your valuable Cover Disk safe you should back up the disk, so if anything should go horribly wrong you've still got the original.

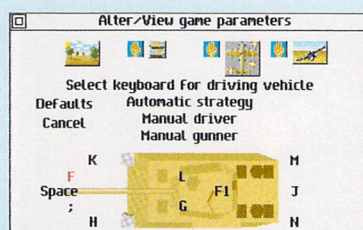
Because we use a special disk for-

mat to squeeze even more goodies onto the Disk, you can't do a direct disk to disk copy – you can't just drag the Floppy Drive A icon over the Floppy Drive B icon. But fear not: we've made life easy for you with a specially-commissioned backup program. Just follow the instructions below and you can't go wrong! Now there's no need to risk damaging the data on your original Cover Disk or losing it ever again!

● **Note** that some programs are compressed to fit on the Disk and cannot be run directly from it. Follow the instructions for each program in these Cover Disk pages and everything comes up roses.

Still single?

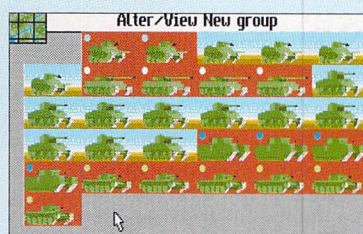
ST FORMAT is now using a double-sided disk format. If you are one of the few ST owners still with a single-sided internal drive and no external drive, then you're out of luck – you can't read STF Cover Disks, or, for that matter, virtually any current software. This is because single-sided drives are now obsolete, and it is well worth upgrading. Replacement drives are cheap – as little as £35 – and easy to fit. At a stroke you can double the storage capacity of your disks. We brought you a detailed guide to fitting new internal drives in STF 32 – turn to page 62 to order it if you missed it.



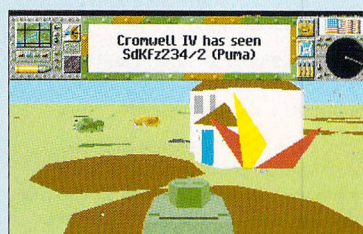
● The setup screen: set the level of detail and your control keys – press the new key to replace the highlighted one. A tiny program bug means you can't use the cursor right key – so don't try.



● And, er, well, that's war, isn't it. Light tanks like the Stuart don't last long if you charge straight in. Click on the map icon at the top left and get back to the map screen to choose another tank.



● Up to 16 tanks can be on the field at once – those on the red background are in the fray. The coloured dots are your battle groups. To move them as one unit, click on a tank and hold down the mouse button until the cursor turns into a tank, then drag it to another tank and join that battle group. To add more, drag them to the campaign map icon.



● After you give your battle groups their commands, it's into the fray – they bomb around shooting each other. You can take command of any of your tanks at any point. Just select the vehicle and click on the 3D icon. At the top right you have a radar-type display of the immediate area. The yellow dots are friendly, the red ones not so.

The pause icon – You can stop the mayhem at any point in the game and ponder your tactics.

Retreat – If things get too hot you could always run away – or as the American military calls it, "advance rearwards."

View battle groups – Take a butcher's at your forces and tinker with the battle groups.

Configuration – Enables you to alter the tank driving keys and adjust the 3D detail. The less the detail, the faster the 3D bits run, but it doesn't look as pretty. You pay your money and you take your choice.

Enter 3D battle – Puts you into the driving seat of the currently highlighted tank so you can muck up the battle for your side – personally.

Current tank – Using the little icon in the bottom right you can give each tank individual commands, such as "dig in." Click on the other icons to get reports on the fuel, ammo and condition of the tank.

Cover Disk Back-Up

BY: BRIAN TILLEY

RESOLUTION: ALL RESOLUTIONS

FOLDER: BACK_UP

FILES: BACK_UP.TOS,

BACK_UP.DOC

READ: BACK_UP.DOC

GET STARTED WITH: BACK_UP.TOS

Be honest now: have you been religiously backing up every one of your precious ST FORMAT Cover Disks? It can be a bit of a pain, right? All that mucking about dragging folders across to drive B and swapping disks. Brian Tilley got fed up with it and decided to do something about it. The result is a clever little beastie which does all the fiddly bits for you!

Now before you do anything, **write-protect your Cover Disk** – just move the little black tab so you can see through the hole. This stops anything untoward happening to the Disk, because nothing can now be written to it. Now get a new disk ready – it doesn't have to be formatted (Back-Up formats it as it goes), but make sure it's not write-protected and check that it doesn't contain any important data you

don't want to lose. Then run *Back-Up* – just double-click on BACK_UP.TOS. The menu couldn't be simpler: just press <1> and off you go, swapping disks when prompted.

To minimise disk swaps *Back-Up* uses all your ST's available memory. Lucky ST owners with 1MByte of RAM or more can do the whole thing with one disk swap. The source disk is the disk you are making the copy of – the original Cover Disk. The destination disk is your new backup disk. If you have two drives, drive A is used as the source and drive B as the destination.

Back-Up can also be used to back up other disks. To see if this is possible with a particular disk, load the program, press <2>, and then, when prompted, insert the disk you want to copy. *Back-Up* tells you if it can copy that disk. Don't expect to be able to copy commercial games, though – they use all sorts of clever tricks to stop you doing this. And it's illegal.

Now there really is no excuse for not doing a backup of your precious ST FORMAT Cover Disks. It can save a lot of heartache if you accidentally spoil the disk.

STOS listings

BY: VARIOUS

RESOLUTION: LOW RESOLUTION

FOLDER: STOS

FILES: PROG0001.BAS,

PROG0002.BAS, PROG0003.BAS

PROG0004.BAS

TO GET STARTED: LOAD FILES INTO STOS (not included)

Ever wanted to scroll a string of text across the screen using STOS? Of course you have. And no doubt you've been looking for a simple timer count-down routine, or a routine that gets the volume of the ST's three voice channels, or a program which displays the sound wave of a sample. All these are on the Disk, ready for you to load into your copy of STOS. Turn to page 74 for the full details. What's that? You don't own STOS already? Then turn to page 46 for a very special offer that could save you an incredible £42!

SEE PAGE 6. NEXT ISSUE: YET ANOTHER COMPLETE PACKAGE!

Volume

BY: XAVIER LAMBRECHT

RESOLUTION: LOW ONLY

FOLDER: VOLUME

FILES: VOLUME2.PRG,

VOLUME2.DOC, ANIM2.PRG,

ANIM2.DOC and three folders of examples

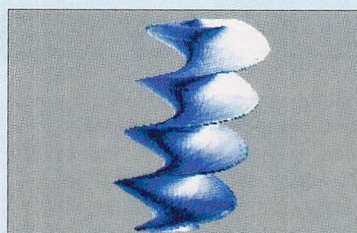
READ: VOLUME2.DOC, ANIM2.DOC

GET STARTED WITH: VOLUME2.PRG

3D object modelling, eh? Phoar, that's technical! Until not so long ago it was the exclusive domain of machines the size of wardrobes covered in little

flashing lights. Not any more! *Volume* is an almost incredibly smart program that renders 3D objects you've defined. Tell the program the profile and outline of a shape and it's created in all its 3D glory. The object's parameters can be saved, as can a *Degas Elite* picture of the final thing. You can even save a series of screens of your object doing the shimmy and animate them using the *Animate* program included.

There's a text file on the Disk with the low-down on each program – just double-click on the DOC file and select



● It's a whatsit – you know, a thingumy-bob that goes with the doo-da in the double flange grommit toggle in a wonkle engine. With *Volume* you can render all manner of 3D shapes, complete with proper lighting and shading.

Show to print it to screen. Even better, *Volume* gets the full treatment on page 48 in its own special feature by STF's



● Don't panic! Well, not too much anyway. Once you get the hang of the way *Volume* creates objects it's a piece of cake, except that you can't eat it. You define the profile, the outline and the orientation – *Volume* does the rest.

resident object modelling expert, who after last month's raytracing is going through a bit of a "rendering period."

Canvas

BY: KINGFISHER SOFTWARE

RESOLUTION: ALL RESOLUTIONS

FOLDER: CANVAS

FILES: CANVAS.PRG, MANUAL.DOC, POINTERS.DAT, DEFAULT.OPT and three .CPT files

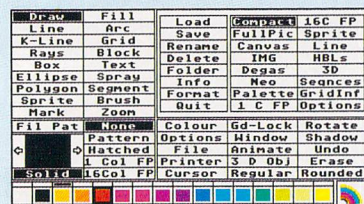
DON'T READ: MANUAL.DOC – Load *Canvas* and press <Help> instead

GET STARTED WITH: CANVAS.PRG

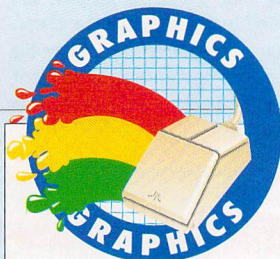
From the now legendary issue 30 came *Canvas*, a *FORMAT* Gold winning art package – complete, fully useable, nothing left out, it's all yours, matey. This month starting on page 32 we bring you an in-depth tutorial to help you get to grips with all its swishy features. But what if you missed issue 30 (now legendary)? Fret not one whit. On this month's Cover Disk is the complete thing again, only more so. This is an updated version with a couple of added file formats and a few "undocumented features" sorted out. There's a new manual which can now be run from any drive too, making the whole thing hard drive installable – just press <Help> to access it. You can also save your favourite configuration to disk so everything is set up as you like it when you load it up.

In the CANVAS folder you'll also find three mysterious, rather sketchy, pictures in CPT format – part, it seems, of a competition or something. All is revealed on page 32. *Canvas* is a formidable art program and beats all but the most high-powered rivals – and now it could even win you a £100 scanner. Smashing stuff!

● A small point: *Canvas* doesn't use standard IMG format when it saves, so unfortunately even though pics seem to be IMGs you might not be able to use them in programs that are fussy about that sort of thing – *Write On*, for instance. (But you can capture copies of them *Write On* can load – use the *That's Snap* screen grabber Accessory that came with *Write On* in STF 33. See that issue for details of how to use it.)



● *Canvas* runs in all resolutions and has heaps of functions, mounds of image manipulation tools and a positive pile of clever tricks. It could also win you a shiny new scanner. Take a gander at page 32 and get pixellating.



Intro Designer (see details to the right) uses a friendly graphical designer program to design your animations – no need to worry about correct syntax or spelling. Finished sequences are saved with the ITR file extension.

THE SEQUENCE OF EVENTS

COM-MAND	COMMANDS LIST	PICTURE OPTIONS	SAMPLE OPTIONS	SEQUENCE OPTIONS	SEC-TION
001	LOAD THUND1.PI1 1	LOAD	LOAD	LOAD	10
002	LOAD THUND2.PI1 2	SHOW	PLAY	SAVE	20
003	LOAD THUND3.PI1 3	PAUSE	SPEED	MERGE	30
004	LOAD THUND4.PI1 4	GOTO		CLEAR ALL	40
005	LOAD CHOPPER.SPL 1	CLS		MEMORY?	50
006	CLS 0 (0, 0, 0).	SCROLL		INSERT	60
007	Scroll ON. Step=-2	FADE		DELETE	70
008	SHOW THUND1.PI1 1			PRINT	80
009	PAUSE 250 (5.5s)				90
010	Scroll OFF.				100
011	SHOW THUND2.PI1 2				110
012	Sample speed = 0			QUIT	120
013	PLAY CHOPPER.SPL 1	1			130
014	Fade ON. Speed=100	2			140
015	PAUSE 10 (0.5s)	3			150
016	SHOW THUND3.PI1 3	4			160
017	Fade OFF.	5			170
018	PAUSE 100 (2.5s)	6			180
019	SHOW THUND4.PI1 4	7			190
020	LOAD THUND5.PI1 1	8			200

RIGHT CLICK TO RE-DRAW SCREEN DISPLAY!

1 SEQUENCE COMMANDS – Commands are stored in a series of boxes. Click on any one of them and then on the option to add a command.

2 LOAD PICTURE – Loads a *Degas Elite* picture into a screen memory bank. Almost all decent art programs can save in *Degas Elite* format, including *Canvas* on this month's Cover Disk. These have the filename extension PI1 (uncompressed low res) or PC1 (compressed low res) – the three characters at the end of the filename. To load one of these, click on Load and type in the file name, or press <Return> to use the fileselector to pick the name. Then you are asked for a screen memory bank to store the picture. Enter a number and press <Return>. A 520 ST can store 11 pictures at once.

SHOW PICTURE – Click here, then enter the screen memory bank of the picture you want shown. If the fade or scroll command is active then the pic is faded or scrolled onto the screen.

PAUSE – Enter the pause value in fiftieths of a second and the picture is... well, you guessed it.

GOTO – Enter the command number you want the program to jump to. If

you want the sequence to repeat itself, then you could tell it to Goto the start again, preferably after the Load commands.

CLS – Clears the screen to a specific colour. Enter the red, blue and green values of the new colour. 0, 0, 0 is black.

SCROLL – Turn scroll on or off. Enter the scrolling value in pixels. Positive numbers scroll the picture down and negative values upwards. Enter zero to turn scrolling off.

FADE – Fades picture in and out of the screen. Enter the fade speed. Entering a zero turns it off.

3 LOAD SAMPLE – Loads a sound sample into an area of memory – as many as your ST can handle. Samples need to be in the SPL format. Cover Disk 29 also had a rather useful sample converter if your favourite sounds aren't in the right format. As with Load Picture, you are asked to enter a memory bank number.

PLAY – Plays sample sound. You need to have set the sample speed first though.

SPEED – Sets the replay rate of any samples played. Enter the number and press <Return>. The sample speed

values are 0 = 5MHz, 1 = 7.5MHz, 2 = 10MHz, 3 = 15MHz, 4 = 20MHz and 5 = 30MHz.

4 LOAD AND SAVE SEQUENCE – Loads and saves ITR files for editing.

MERGE – Enables you to merge two ITR files together. Select a command position number and select the ITR file with the fileselector.

CLEAR ALL – Clears all the command positions – use with caution!

MEMORY – Tells you how much memory you have left. Keep a eye on this!

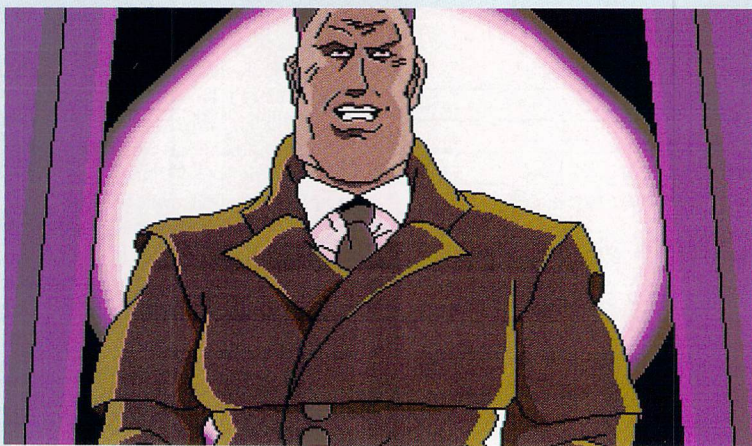
INSERT – Enables you insert a free space anywhere in the sequence. Just enter the position number.

Delete – Zaps a command. Just enter the position number and it's history! (Well, a very very small part of it, anyway.)

PRINT – Sends the currently displayed commands to your printer.

QUIT – Sends you back to the Desktop.

SECTION – Sequences can be dozens of commands long. Click on these to whizz back and forth through your work.



● You can use the collection of pictures and sound samples from the *Autoplay* animation on Cover Disk 29 to get going. The *Intro Designer* ITR file on this month's Disk is set up to use these already, to give you a idea of how it's all put together. "Yes, Mr President!"

Intro Designer

BY: ANTHONY DANIELS

RESOLUTION: LOW ONLY

FOLDER: INTRO

FILES: BASCODE.EXE,

INTRODE6.PRG, INTRODE6.LST,

INTROPL5.PRG, INTROPL5.LST,

INTROSEQ.ITR

GET STARTED WITH: INTRODE6.PRG

Back in the mists of time, in a land where dinosaurs and Pan's People still roamed the earth and nobody had heard of dental floss, there was an issue of *ST FORMAT* called 29. And on that issue of *ST FORMAT* there was a Cover Disk program. And the name of that Cover Disk program – which was on the issue of *ST FORMAT* which was back in the mists of time – was... *Autoplay*! It was written in GFA Basic and could be used to create swishy animated introduction sequences with pictures and samples. Only a couple of problems: it was limited to five pictures in memory at once and controlled the sequence using a script file that had to be edited using a text editor – not the most friendly of procedures.

We reckoned you could do better, and we put a delicious chocolate-flavoured Power Computing 40MByte hard drive where our mouths were. (That's how we are about chocolate.) And what an inspired collection of programs we got! Certainly no shortage of programming talent out there! From the mound of 50 entries worthy of consideration rose *Intro Designer*. The only limit on how much data can be loaded is memory size, it can handle samples and there's a friendly designer program that makes the whole thing a breeze. Cheers, fanfare and general clapping noises go to **Anthony Daniels**. We are currently prising the hard drive from the Editor's desk – apparently the glue

"just fell open."

On the Cover Disk are two compiled programs ready to use, one to design the sequences and another to play them. There's also the source code as GFA LST files – if you have GFA Basic you can load them in and be inspired, intrigued and astounded by how they're pieced together.

The first step is to collect all your pictures and samples for your intended sequence onto one disk. This is your animation disk. Copy across from the Cover Disk INTROPL5.PRG and BASCODE.EXE. INTROPL5.PRG is the player program and like *Autoplay* it uses a script file to tell it what to load and how to display it. If the file is called INTROSEQ.ITR then it loads it automatically. If you press the mouse button as the program is loading, then you can select any ITR file. INTROPL5.PRG can be placed in an AUTO folder to make the whole thing automatic when you boot up with the animation disk.

BASCODE.EXE is a machine code file which GFA needs to be able to play samples – without it nothing happens. INTRODE6.PRG constructs the script files for you – just enter the commands you want, with no worrying about the correct syntax. You can run this from your backup of the Cover Disk or from your animation disk if there's room.

Also on Cover Disk 29 (back in the mists, etc etc) there was a series of pictures and samples for a short introduction sequence using *Autoplay*. On this month's Disk is a script file set up to use these with *Intro Designer*. Just copy all the pictures and samples from inside the AUTOPLAY folder on Disk 29 to your animation disk. (If you missed that issue, do we really need to remind you that you can order it using the handy coupon on page 62 this issue? Thought not.)

Right then, you've got *Canvas* to draw your pictures; you've got *Intro Designer* to animate them; now let's see some sequences out there! Get creating – hup! Hup!



"Cruise for a Corpse was murderously good, The Secret of Monkey Island sent everyone ape, but now 'point and click' graphic adventures are set to undergo a REVOLUTION"

{AMIGA FORMAT}

...All real change must come through revolution...

Anon

PROBLEMS? WHERE TO FIND HELP

1. MY COVER DISK WON'T LOAD!

Before anything else, check that you don't have a single-sided drive (one older than 1988, that can't format any disks to more than 360K) – they can't read new *ST FORMAT* Cover Disks. Single-sided drives are obsolete and it's well worth upgrading. Replacement drives are easy to fit and cost as little as £35. We covered fitting new internal drives in *STF 32* – turn to page 62 to order a copy if you missed it.

Drive okay, but still no joy? *ST FORMAT* duplicates tens of thousands of Disks every month. Inevitably a few are defective or damaged in some way – the Disk just won't load, or you can't open a window at all, or there's nothing in it, or the folder names are gobbledegook. It doesn't happen often, but if you're unlucky, sorry. You're guaranteed a free replacement if you return the Disk to:

***ST FORMAT* May Cover Disk Returns, TIB plc, 36-50 Adelaide Street, Bradford, Yorkshire BD5 0EA.**

TIB promise to replace your defective Disk within one week of receiving it – possibly even sooner if you can enclose a sturdy self-addressed envelope. (If you're worried about trusting your precious Disk to the mails, the Royal Mail's Recorded Delivery service costs only 30p on top of the normal postage.)

Please don't send your defective Disk to any other address – we have no stocks of Disks in Bath.

2. THIS COVER DISK PROGRAM DOESN'T LOAD!

If only part of your Disk won't load, TIB invite you to ring their Cover Disk helpline and talk through your problem before you send back a perfectly good Disk. Telephone 0274 736990 during normal office hours and ask for Sam Hiah, *ST FORMAT* Cover Disk Helpline.

3. I CAN'T WORK OUT THIS COVER DISK PROGRAM!

Your Disk seems okay, everything loads, but you've got a problem with one of the programs. Make sure you've read all the relevant Cover Disk pages and any document files on the Disk. Try consulting your *ST* Owner's manual – that may have the information you need. Still got a problem? Then give us a ring on Wednesday afternoon. Telephone the *ST FORMAT* Cover Disk Hotline ☎ 0225 442244 on Wednesday 2 – 6 pm only.

We don't write the Cover Disk programs ourselves and don't know as much about them as the programmers, but we'll do our best to sort your problem out.

Please note that this line is for Cover Disk problems only. If you have any other queries, read on!

4. I CAN'T WORK OUT THIS OTHER PROGRAM I'VE BOUGHT!

The best place to start is the distributor of the program. Most software houses run some kind of helpline service – check the bump that came with your software for the number.

5. I'VE GOT AN ST PROBLEM!

If you've still got a problem – you suspect your machine may be faulty, or you're not sure about some procedure, or you need an answer to a more general query – then you have two options.

- Ring the official Atari Helpline ☎ 031 332 9323 on any weekday 8 am – 11 pm.
- Write to *ST* Answers using the Freepost coupon on page 82 – you don't even have to pay postage! – and let *ST FORMAT*'s team of experts tackle your problem in the pages of *STF*. We guarantee to reply to every query we receive as soon as space is available.

FAME & FORTUNE AWAIT YOU

We want *your* software – games, utilities, demos – anything good, original and short. If you've written anything worthy of the *ST FORMAT* Cover Disk, send it with this form and full documentation to: Chris Lloyd, *ST FORMAT* Cover Disk Editor, 30 Monmouth St, Bath, Avon BA1 2BW. Then please be patient: we get heaps of submissions, and we try to give them all a fair testing!

Name

Address

Daytime phone

Program title Total size in K

On a separate sheet, explain concisely what the program does and what's great about it.

Don't forget to: ● Include on-disk and paper documentation ● Write your name and address on the disk ● Use a virus-free disk ● Keep a copy of your program, because contributions are non-returnable ● Enclose wads of cash. We pay for programs we use, but nobody pays for our drinks!

Please sign the following declaration: This program is submitted for publication in *ST FORMAT*. It is wholly my own work and I hereby agree to indemnify Future Publishing against any legal action should copyright problems arise.

Signed

Key Show

BY: WOLFGANG ROHE

RESOLUTION: MEDIUM AND HIGH

FOLDER: KEYSHOW

FILE: KEY_SHOW.ACC

GET STARTED WITH: SEE BELOW

Last month *ST FORMAT* brought you the complete version of the *FORMAT* Gold winning word processor *Write On*. Among the goodies was a font made up of symbols – little pointing hands and stuff. Only problem is, where are they

on the keyboard? *Key Show* gives you a rundown of every character in the font. Take a look at some of the supplied ones – there's all sorts of foreign characters hidden away.

Key Show is a Desk Accessory, which means your *ST* loads it into memory when it's first switched on. To do this the program but must be in the root directory of the disk in drive A. The root directory is the first level of the directory structure. If you double-click on the drive icon so a window appears and you can see the file, and it's not inside any folders, then it's on the root

Trendy Handy Randy Hendy Bendy Mandy

BY: M A HENDERSON

RESOLUTION: LOW ONLY

FOLDER: MANDY

FILES: HANDYMAN.PRG, HENDY-MAN.DEF, README.DOC and a

folder of examples

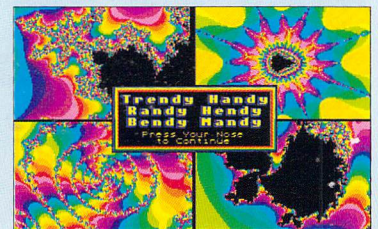
READ: README.DOC

GET STARTED WITH:

HENDYMAN.PRG

Yes, they're back! Fractals – those whacky mathematical pictures with a life of their own. Gasp at the speed of the *Hendy Mandy* program. Stare at the fascinating swirly shapes. Marvel at the cycling colours. Boggle at the very idea of the thing!

Hendy Mandy draws Mandelbrot sets – very fast ones. A Mandelbrot set is a visual representation of an impossible equation with numbers that don't exist. All highly theoretical and strange. Until the micro-processor came along and gave mathematicians the ability to transform the formula into beautiful pictures, it was all relatively unknown.



● The party of the first part, hereafter known as *Hendy Mandy*, calculates and draws the Mandelbrot set using some impressive maths routines that leave other Mandelbrot generators gasping for breath.

There are many Mandelbrot generators around, but *Hendy Mandy* stands out from the rest – it's friendly and very fast.

After a couple of title screens *Hendy Mandy* draws the basic Mandelbrot set. Pressing the right mouse button brings up the main menu. Press and hold down the left mouse button and wiggle the mouse around – this is your zoom box. Release the button when you've captured an interesting bit and click the left button again to draw it. Some amazingly fancy machine code maths routines crunch and whirr for a while and up pops the new picture.

Both pictures and picture parameters can be saved. The parameter files are descriptions of where each picture is in the Mandelbrot set. There's a whole folder of these on the Cover Disk. Try loading in a few and get an idea of the range of weird scenes involved. Screens can be any size – if you want full-screen pictures, then click on "Aspect" and then select "Full

Sequencer One compo winner

BY: ROY McCORMACK

RESOLUTION: MEDIUM OR HIGH

FOLDER: SEQ_ONE

FILES: COMPO.ONE

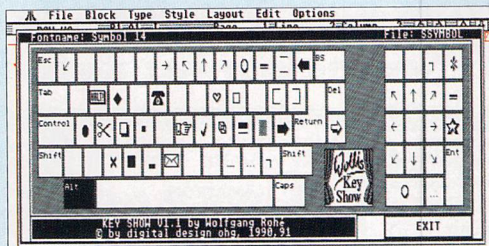
READ: PEARLE.DOC

TO GET STARTED: SEE BELOW

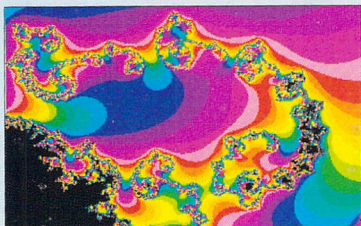
On the front of issue 30 we brought you the complete version of the *Sequencer One* music package. Along with its stunning array of MIDI functions was the ability to use samples. So we gave you a folder full of samples. Then in issue 31 we gave you ten more samples and issued a challenge: write a song using them, and the best one we receive wins a couple of choice pieces of Roland sound making gear – a PC-200 lightweight portable master keyboard and a CM-300 self-contained 16-part multi-timbral sound module,

directory.

To use Key Show, copy the file KEY_SHOW.ACC from the Cover Disk over to the root directory of your working copy of Write On and switch on with that disk in the drive. Key Show is now available from the Desk menu underneath the little Atari symbol. If you didn't get last month's STF you missed out on a goodie, didn't you? Flip to page 62 to order a back issue.



● **Key Show** gives you an overview of all the characters available in any of Write On's fonts. Press <Shift>, <Alternate> or both together to get at the full range. Pressing the appropriate key or clicking on it with the mouse inserts that character into your document.



● **Zoom** in around the edge of the black area and enter the swirly zone. A good place to start is by loading in one of the example files and zooming in on an interesting section. This one's full of lovely swoopy-swooshiness.

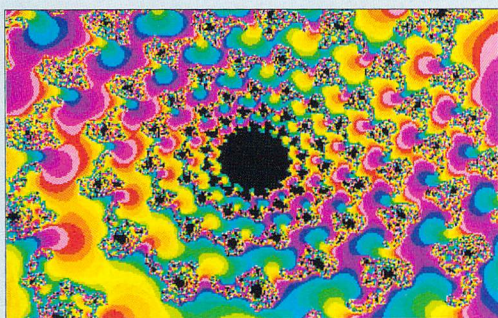
screen." If you zoom in on a set the picture becomes less detailed, so you need to crank up the maths using the "Depth" option. Try upping it by 30 or so to increase detail. There's a healthy manual on the disk to read that explains all the functions in detail.

One small warning – although the menu has a Quit option, it doesn't leave your ST very cleanly. There are bits of code floating about that may clash with subsequent programs. If you have any problems it's best to turn off your ST completely for a minute or so.



● **The main option screen.** Just press the right mouse button to get here. Selectable items are in black. Clicking on System gives you the Mandelbrot's parameters to be impressed by. If Mandelbrot's get too much, click on Fractal and turn the pattern into a Julia – another simple complex equation that creates whacky pictures.

The *Hendy Mandy* is Shareware. This means that the author isn't being paid vast sums by a software house for this program, so if you make use of it you should send him a fiver – the address is on the program's startup screen. Doing this encourages authors to write more Shareware and brings better programs within reach of everyone, so if you're impressed send the man his dosh.



● **Oh wow! Isn't it beautiful?** It's a visual representation of an impossible equation. You can zoom in infinitely, revealing endless patterns of organic-looking coloured swirls. Oh wow!

worth over £500.

The lights dim, there is the rustle of a gold envelope, and the winner is – me! I win all that kit! It's mine, I tell you! It says right here that I win... an invitation to subscribe to *Reader's Digest* and a small plastic key that may or may not mean I already own an XR3i? Damn! Wrong envelope! Er, the real winner is **Roy McCormack** from **North Yorkshire**. Congratulations!

To listen to the piece you need all the samples together in one folder on your backup copy of *Sequencer One*.

One very important pointette: thanks to forces beyond our control two of the samples ended up with the same name, so when you copy BASSDRUM.IFF from issue 31's samples you need to rename it BASSDRU2.IFF. Done that? Right. Load up *Sequencer One* and use Load Song from the File menu to load in COMPO.ONE, then click on Play.

If you went on holiday or something and missed *ST FORMAT 30*, then you missed it, didn't you? Turn to page 62 and order a copy quick.

“Looks set to become
Britain's answer to
Sierra and Lucasfilm”

{Paul Presley • PC Review}

...All wickedness is but little
to the wickedness
of a woman...

The Bible • Apocrypha Ib.25:19

from
99p
a disk

AT THIS PRICE YOU'VE JUST GOT TO TRY P.D. SOFTWARE

Try it now with THE PUBLIC DOMAIN & SHAREWARE SUPPLY COMPANY from only 99p A DISK, can you afford not to? See below for details.

Characters between asterisks show special requirements;

M = Mono Res
C = Colour Res
D = Double sided disk
X = 1Mb RAM
(s) = Not TOS 1.62

Desk Accessories & Utilities

U001 Dir printer, various RAMdisks, snapshot saves screens to disk. Desk Acc. loader.
U003 Desk ACC formatter, calendar, clock, dir printer & a Disk Manager, programmers calculator.
U008 68000 ASSEMBLER, an address/mailling list. An autodial utility - date/time input. Label printer+.
U009 - PICSWITCH 7, changes all graphic resolution. Hi-res & colour emulators. BBOOT boot from your B drive. SWITCHER 2 progs in memory at the same time.
FSel 5.5, gives you improved facilities from the desk top.
U010 STE BOOTUP, boot your STE into memory res.
U011 DIY DEMO, create demos featuring a title screen & scrolling message, without any programming skills.
U014 ARC, file compiler. BICLOCK set time/date without using an .ACC slot. FONTRIX loads an 8 bit font & make it GEM difficult. MONOEMU v5.0 makes your colour display think it's hi-res mono so that you can run most mono programs.
U015 FILE SELECTOR V6.0, replacement for the GEM file selector. Select drive, sort, print, get full info on selected file, re-name, show time or name in selector. Virus Killer v2.01 detects 6 types of virus.
U016 100% IBM compatible formatter that formats 3.5" or 5.25" disks for DOS or TOS comes with source code. ARC SHELL v1.91 MEGA formatter, a multi-purpose disk format.
U019 DRFLOPPY, a disk sector editor, SCODE makes ASCII for easy data transfer.
U023 This disk is packed with various programs for printing all kinds of labels.
U024 CHK 2.3, Tells you everything you should ever need to know about a disk. DISK DOUBLER, is a utility for converting 2 single disks quickly onto 1 D/S disk. ST to IBM MODIFIER, alters the format of DS Atari disks so that an IBM can read them.
U027 ANTIDOTE, Super virus killer for detecting & killing all bootsector viruses, comes as a .ACC.
U028 DISKMECH, is a powerful disk analyser/archiver/editor with options to edit sectors, format sectors, edit bytes, edit tracks & analyse disks, with full documentation. CPANEL is a vastly improved control panel.
U030 AMC GDOS, Atari's replacement for GDOS, used the same.
U032 MOUSE TRICKS, extensive control over mouse movement & menu style.
U033 MX-2 V2.3, a multi-tasking & multi-user environment allowing up to 7 concurrent tasks. *D*
U034 DOUBLE CLICK, format v3.03 9/10 sectors, 80/82 tracks.
U035 DEC, edit clone, disk engineer v3.01 allows you to do almost anything to a disk via GEM.
U040 AUTOGEAM, autoboots any Gem program when booting. VC spreadsheet a non-GEM spreadsheet.
U041 ADDRESS LOG, on this disk there's a limited address book & label printer & a disk catalogue that auto disk directories.
U046 SUPER VKILLER, detects 5 different viruses, recognises 7 anti-viruses & 133 other types of boot sector.
U050 GEMINI, desktop replacement. All English version *DX*
U052 GEM PLUS, this is a great variant of Neodesk.
U057 GEMDOS USERS GUIDE, a disk full of information about GEMDOS.
U058 ATARI TOS 1.4 FIXERS, (STFMs with Rainbow TOS): POOLFIX, PRG & TOS 1.4 FIX. PRG for fixing o/s bugs.
U059 XCONTROL, Atari's latest TT control panel accessory for all ST's.
U063 MEMFILE 2.0, Memory and disk editor with powerful features.

Graphic, Font and Art/Drawing disks

A005 PALART, excellent art program with full docs on disk. Excellent features. *C*.
A009 COLUMBIA, A drawing program with some 3D elements & co-ord display. Studio (1Mb RAM) is a menu driven drawing package. Both programs are from Germany.
A012 DOODLE, this disk has the original mono & colour versions. Also some Mandelzoom pictures.
A013 ST GRAPH, a comprehensive graph program that can handle bar, horizontal bar, stacked bar, line & dot charts. The disk is formatted so that DS users can access extra routines.
A015 FONT52, 7 screen & desktop fonts. Columbia, Devoll, Hudson Saturn, Spokane, Thames & Universal Roman.
A018 CANVAS, a great art package that fully supports the STE.
A020 PALETTE MASTER, A good art package that offers the user up to 512 colours. *C*.
A024 FRACKTAL, is a fractal drawing program from Germany that comes with mono & colour versions.
A025 FONTKIT 3.31, by Jeremy Hughes. An excellent program, well improved on 3.2. *D*
A027 ANI-ST, ex-commercial package, quality animation system. You draw the initial & final shapes & the ST draws the ones in between.
A029 MASTERPAINT, drawing package, excellent features. Mono and colour.
A030 PICWORKS, this is a utility for enlarging, reformatting & manipulating pics up to 3 times normal size. *M*.
A042 ST CAD v2.1, a medium or high res CAD package. Full docs very good. CALCPLOT, scientific calculator and function plotter.
A043 THE ARTIST, A great drawing package with all the normal options. *M*.

Clipart

C002 Various human figures, different cartoons, titles & more.
C003 Sports figures-high quality, July 4th logos.
C010 Occasional clips, various characters, etc.
C011 Loads more fruit & vegetables.
C012 Herbs & kitchen parts.
C013 Humorous clips plus the individual letters A-Z.
C015 Babies, boys & girls.
C016 More girls, scrolls & occasional clips.
C017 More Art deco, baby boy & girl.
C018 More varied humorous clips

Wordprocessing & Desktop Publishing

W001-006 TEX, 6 disk pack, includes TEX the document processor. *M*.
W008 1st WORD, Wordprocessor. Fully GEM based professional word-processor.
W015 HYPertext, Shareware prog suitable for the production of very professional documents. *MD*.
W017 ST WRITER ELITE V4.1, top quality wordprocessor.

HUNDREDS OF DISKS TO CHOOSE FROM!

JUST SEND 60p IN STAMPS FOR OUR DISK CATALOGUE

Games Disks (colour unless stated)

G001 Warzone, Daleks, Haunted House & Mousemess.
G014 SUPERBREAKOUT, there are over 40 brick types all with special features. *M*.
G016 NAPOLEAN, conquer Europe, good wargame simulation. *M*.
G017 EMPIRE BUILDER, property developer simulation. LOST TREASURE & JUMPSTER.
G018 RUSH, move the bricks in order to create a way out for the ball.
G020 YAHTZY, an extremely popular game.
G021 UPSTART, an excellent shooting the cherries game. *S*.
G022 COMPANION, is a shoot 'em-up mission in outer space.
G025 ENGLAND TEAM MANAGER, Football team management.
G027 DIE ALIEN BLOB, a great shoot 'em-up, excellent graphics.
G028 TREASURE SEARCH, find the hidden treasure. *D*.
G032 BALLER, an arcade castle & cannons game graphic adv. *M*.
G033 ADVENTURE WRITING SYSTEM, create adventures.
G037 TUNNEL VISION, a great maze game.
G038 BERMUDA RACE 2, the challenge is to sail to Bermuda.
G039 INVASION, adventure set on a huge spaceship.
G041 HACK! is a Dungeon & Dragons text adventure.
G045 AYATOLLA, Your border is under attack from terrorists.
G046 ROBOTZ, addictive & very playable game. There are 40 levels.
G047 FRUIT MACHINE, is a great fruit machine simulator.
G056 SLIDER, 3 levels, quality puzzle game.
G063 SOLITAIR, with 3D graphics. Macpan is a kind of Pacman. Galaxy & Sprengmeister are strategy games. *M*.
G064 ATOMS, is a mentally challenging game for 2-4 players.
KILLERCHESS, fast & furious chess game. AMMOTRACK's a super race & blast'em game.
G068 SKIDPAN, a motor racing game written in STOS. (Not STE).
G069 STOCKMARKET, wheel & deal. GALACTIC WARRIORS, shoot'em-up.
G084 FLOYD THE DROID, ultra fast shoot'em-up. Sampled sound.
G085 AIR WARRIOR, a flight simulator. Full docs.
G086 COMPUTER PINBALL, as it sounds. DEVASTATOR, a 3D strategy game.
G090 TALESPIN, the wolf and the 7 kids.
G092 FUZZBALL, a great platform game.
G093 SHIPWRECK, educational maths with graphics. Not STE.
G094 ZOG, a great blasting game. SUPER SENSORS!
G097 WIZZARDS LAIR, complete text & graphic adventure.
G098 UNDER BERKWOOD, An absolutely massive graphic adventure
G100 NAVAL BATTLE, battleships
G102 CENTAURI, a horizontal scrolling shoot'em-up
G106 VIRUS, a game with great graphics and sound.
G108 FLYOVER, a bombing raid with a reasonable level of difficulty.
G109 GLOB, you collect cherry cakes while avoiding pursuers.
G111 TRACKER, you drive your tracker through enemy territory.
G112 OVERLANDER, a good shoot'em-up.
G113 CHANCE, the Archons have taken over a space platform close.
G114 ESCAPE FROM THE TOMB OF RA, collect jewels to prolong your life, find the secret passages, and if you can, get out alive.
G115 MUTANT, reactor in a nuclear powered mine goes out of control. The workers start to mutate. You must get to the end cavern & destroy it.
G116 KEY TO ATLANTIS, underwater scrolling shoot'em-up.
G118 MARS MAZE, good platform game. Work your way up against time.
G119 STEEL, blast everything in sight.
G122 HEDGEHOG, along the same vein as FROGGER.
G123 THE NAME GAME, based upon the Sun puzzle. Create your own.

G128 TARK, great text adventure.
G129 BATTLE FOR THE THRONE, a role playing adv.
G130 LLAMATRON, a great shareware game by Geoff Minter. *D*.
G131 VIDEO POKER, Las Vegas poker playing machine.
G132 DERRICK THE DROID, a great mix of platform, shoot'em-up & puzzle game.
G136 PORK II, another send up of the ZORK series. Subtitled "The Gizzard if Showbiz".
G137 MORIA, a fantasy role playing game. *D*.
G138 SHOOT'EM-UP BUILDER KIT, make programming shoot'em-ups easily. *D*.
G141 DUNGEON! Multi choice fantasy adventure with some humour.
G144 HACKMAN, 50 levels of a great Pacman clone.
G145 ELEVEN CRYSTALS II, part 2 of a great text adventure by Fink.
G149 STARMAZE, Guide your craft around the various levels blasting the alien craft on your way.

Programming/ Language Disks

P001 6800 ASSEMBLER,
P008-P010, C LANGUAGE DISKS 1, 2 & 3 of Elementary C, a set of 3 disks.
P012 CPM EMULATOR, this is a CPM-8 version 2.0 that runs at 2MHz.
P013 CPM UTILITIES, for P012
P017 PROGRAMMING EDITORS, CONTEXT V2, PRO-ED & P-EDIT, plenty of features & documents.
P020 SOZOBON C, probably the best PD C compiler with full K&R compiler support. *D*.
P022 SPRITE EDITOR, create & save your own sprites.
P023 C TUTORIAL, disk manual, an excellent intro into C programming.
P026 MKRSC, a simple GEM resource construction utility.

Communications Disks

C005 UNITERM V2.0A, with auto-dialler & phone book.
C006 VANTERM 3.71 & 3.8, is just about the best PD communications package around.

Applications, Spreadsheets, Databases, etc

S001 DATABASE 1, this is a GEM driven database.
S002 ST SHEET, this is a very good quality spreadsheet. *C*.
S005 B/STAT V2.01, this is a sophisticated graphing & statistical analysis program. *DX*.
S007 OPUS V2.2, This program is a GEM based spreadsheet & charting program *DX*.
S009 WG DATA, high quality DTB with custom screen layout. Full docs.
S011 DOUBLE SENTRY, an excellent fully working accounts package (no VAT).
S013 INVENTORY PRO V2.0, is a fully featured stock control system. Very powerful.
S016 SHEET V2, fully featured spreadsheet. Similar to Lotus 123 docs.

Music

M001 COMPOSER, a music creation program.
M012 SINGING CALIFORNIAN, rations
M013 MUSIC WRITER, this program lets you create music on screen.
M016 CASIO CZ SOUNDS & EDITOR.
M018 ACCOMPANIST 2.3, full featured midi sequencer. *C*.
M020 XBIOs, music construction kit.
M021 PERCUSSAMAN, is a 4 track, 16 instrument, digitally synthesised sequencer.
M022 SOUNDTRACKER PLAYER & MODULES. D DREAD1, D DREAD2, PAT MIX, RVB DEMO, SPREAD.

Educational

E002 WORLD MAP GAME.
E004 SPELLING, made easy.
E008 CHUNNEL, a French to English & vice-versa tutorial game, with words & short phrases. *C*.
E011 TYPING TUTOR (2), with full documentation.
E013 MATHS MADE EASY, Another great program with speech synthesis.
E014 KIDGRAPH, KIDMUSIC, KIDPIANO, KIDPOTATO "C"
E015 KIDPUBLISHER, DTP, Kidsong.
E016 DOT2DOT, join the dots to make pics. Also create your own.
E019 SOLAR SYSTEM GEOGRAPHY.
E020 GEOGRAPHY TUTOR a great shareware package.
E021 ZOO MAKER, a game with a difference, you are asked questions and the computer tries to guess the animal.
E023 COLOURING BOOK, superb program for the young.

General

F005 CONSTELLATIONS, a comprehensive Astronomers disk. *M*.
F009 THE PLANETS, a slide show around the planets. *D*.
F013 POOLWIFE V3.5, a sophisticated pools predictor. Med res.
F016 ST TOUR, excellent guided tour of your ST.
F017 YOUR SECOND ATARI MANUAL, a 250Kbyte text file on the ST
F019 GENEALOGY, shareware package for tracing family trees.
F021 BUSINESS LETTERS, 100 business style letters in ASCII code.

Demos

D005 THE DEFINITIVE DEMO, by the Lost Boys. *D*.
D006 SLATATIAN CULT, music demo I & music demo II. *D*.
D007 ASTERIX DEMO, digital sound & pics.
D008 BOMB THE BASS, demo.
D009 TRANSYLVANIA DEMO, by the Lost Boys. *D*.
D010 SOUND CONNEXIONS DEMO. *D*.

PRICING

1-10 £1.25 each 11 & over 99p each
All orders plus 50p p&p
International orders plus 10%
Air Mail 50p per disk
Cheques etc payable to PDSSC
Send orders to
PDSSC, 5 Walnut Close,
Barkingside, Essex IG6 1HE



RING US NOW! (0354) 8448
9am -7pm 7 days a week
or our friendly answerphone at other times

→ **STOS MIDI Extension**

BY: ASA BURROWS

RESOLUTION: ALL RESOLUTIONS

FOLDER: STOS

FILES: MIDI.EXM, MIDI.ECM, MIDI-COM.BAS, MIDITEST.BAS

TO GET STARTED: SEE BELOW

One of the beauties of the powerful STOS language is its modular construction. Want some new commands? Just add a new extension. One of the omissions from the original was some specific MIDI commands – until now. MIDI stands for Musical Instrument Digital Interface, and it's what enables your ST to talk to suitable synthesizers, drum machines – anything with MIDI ports, even other STs. With this extension added to your copy of STOS, you can write programs including MIDI music, or multi-

player games that can be played on STs linked by MIDI leads – the possibilities are dazzling!

To get going you need to copy the extension to your working copy of the STOS language disk. Copy MIDI.EXM into the STOS folder and MIDI.ECM into the COMPILER folder if you have that too. When you run STOS you should now get a little welcoming message telling you the MIDI extension is correctly installed. Now you're in business!

On the Disk are a couple of example programs to get you going. MIDITEST.BAS is a simple tester to make sure everything is tickety-boo. MIDICOM.BAS enables two STs linked by MIDI leads to rap to each other.

● If you like the extension and want more information and examples for this one and the new STE extensions, then bung a tenner to: Asa Burrows, 67 Malvern Road, Leytonstone, London E11 3DJ.

THE NEW COMMANDS

The STOS extension on the Disk adds four new commands:

MIDI ON buffstart, buffend, start, filter, end

The MIDI routine is interrupt-driven. To set things off you need to use the MIDI ON command. There are five parameters. Buffstart and buffend are the start and end addresses of the bank you're using as the MIDI buffer – it's normally about 256 bytes. Filter: if this is not set to 0 any occurrences of this value get filtered out – handy for getting rid of annoying synth active messages. End: as with the start code, if this is not set to zero then the routine stops receiving data once this value is received.

MIDI IN

This function pulls the next byte of data from the buffer. If it is -1 then the message is "no data available."

MIDI OUT

Sends one byte to the MIDI Out port. Of course you can execute multiple MIDI OUT commands to send longer messages.

MIDI OFF

Switches it all off again.

DC Right Double-Click

BY: KEITH GERDES

RESOLUTION: ALL RESOLUTIONS

FOLDER: DC_RT_DC

FILES: DC_RT_DC.PRG,
DC_RT_DC.DOC

TO GET STARTED: SEE BELOW

Now here's a handy little number. DC Right Double-Click enables one click on the right-hand mouse button to emulate a double-click with the left button, speeding up Desktop operations immeasurably. (Well, you try measuring it, smarty!) Not-clicking-fast-enough misery is banished!

To use it you need to configure the program first. Don't do this on your original Cover Disk because it saves

itself back to disk afterwards. Copy DC_RT_DC.PRG to a blank disk and run the program. It asks if you want it turned off during programs, then it saves itself. If you want DC Right Double-Click up and running every time you switch on, then it's a good idea to copy it to an AUTO folder – simply a folder called AUTO which is not contained in any folders itself. Your ST looks in the AUTO folder of any disk in drive A when it's first switched on, and any programs with the extension .PRG in there are automatically run. Any time you click quickly on the right button your ST thinks you've done a left double-click; press the button and hold it for a moment and it's a normal right-click. Now there's useful(ish)!

“Acclaimed as a
revolution in
game design,
Revolution Softwares’
goal is to change the
conventions of
role-playing games
forever with...”

{GAMES X}

...Art is either a plagiarist
or a revolutionist...

Gaugin

MultiTOS enables STs to run several programs at once ● Atari confirm new machine ● Frankfurt music show report

TOS upgrade brings multi-tasking to all STs

by Clive Parker

You may soon be able to run several different programs on your ST at the same time, thanks to a new TOS upgrade due from Atari soon.

The new operating system, called MultiTOS, promises genuine multi-tasking on the ST for the first time, unlike previous switching software which only freezes one program to enable you to switch to another. As an example, you could be typing text in your word processor in one window while your ST continues rendering a 3D image using the *Volume* program from the Cover Disk in another – a highly intensive process that otherwise would freeze up your ST for three hours or more.

This type of flexibility could greatly increase your productivity, especially if you are using DTP programs which tie up processor time creating page information for printing. You'll now be able to start producing a new document or move to a completely different application – preparing graphics with your art package, say – while the print routine operates in the background.

As Atari US Managing Director Sam Tramiel revealed to *ST FORMAT* in an exclusive interview last September (*STF* 27), the new MultiTOS is to be made

available for the entire ST/TT range and will be installed as standard in new machines. It may be made available in both ROM and disk based versions – which one you use depends on which particular machine and memory configuration you have.

The minimum memory requirement is likely to be 1MByte, because 512K machines don't really have enough

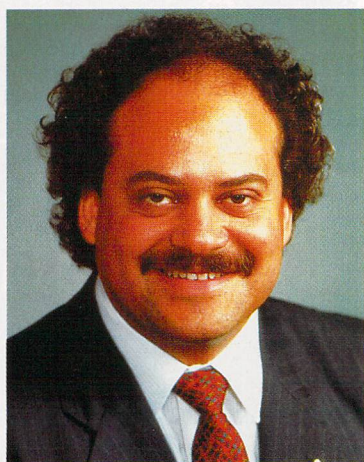
spare memory to run more than one program at the same time.

MultiTOS means an end to waiting for your ST to finish one task before you can start another

MultiTOS was shown running at the recent Ce-Bit show in Hanover, with HiSoft demonstrating it using their software. Although still under development, it has now been given to software and hardware developers for testing in earnest before it is released.

Sources within Atari have suggested to *ST FORMAT* that MultiTOS is an advanced implementation of *MiNT*, which stands for *Mint is Not TOS*, a freeware multi-tasking operating system extension which can run almost all TOS programs, including GEM. The program has been licensed by the programmer, Eric Smith, to Atari for development into a fully working operating system.

If MultiTOS is a ROM-based upgrade of *MiNT*, this means it has been in development for some time and has not been hastily written to satisfy a market need. For Atari, MultiTOS looks like the breakthrough they need to broaden the appeal of their machines in the lucrative professional applications market. For ST owners, it means an end to waiting for your ST to finish one task before you can get on with another – so for the first time you can use the tremendous power of your machine to its utmost.



● Sam Tramiel, boss of Atari US, told *ST FORMAT* last September: "The whole issue is to make sure it will be compatible with existing packages which were not written to be multi-tasking packages." Atari must feel they've done it.

MAKING MiNT

The multi-tasking system *MiNT* was developed by Eric Smith, a graduate student studying for his PhD in mathematics at the University of Ontario in Canada. Eric developed *MiNT* because he was not satisfied with TOS or any of the other "multi-tasking" programs available for the ST range. The multi-tasking operating system he came up with is designed to replace TOS and act as a memory resident program like GDOS, enabling a CLI (command line interface) shell to use UNIX style commands to control the operating system.

Eric told *ST FORMAT* that the program was first released over two years ago and has been further developed using a TT provided by Atari over 18 months ago. *MiNT* runs on STs with any version of TOS and at least 1MByte of memory, and it enables non GEM programs to run in the background, with inter-process communication letting you switch between applications at will. Previous switching software available freezes one program to enable you to switch to another, but programs running under *MiNT* continue processing while in the background.

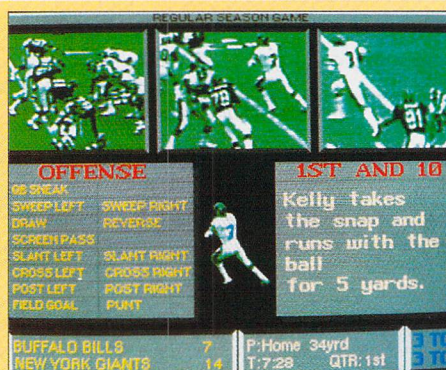
The latest version of *MiNT* is available (along with a Unix style window management program) from the South West Software Library, PO Box 562, Wimbourne, Dorset, BH21 2YD.

TAKE IT TO THE BRIDGE, OMAR

Forget the *Alien 3* licence. Forget *Hook*. In fact, the softies may as well forget the licence race completely this year, because Oxford Softworks have beaten them to it. On imminent release from them is *Omar Sharif's Bridge*, which is nothing less than the first bridge game to be personally endorsed by the card-playing legend that is Omar. Excited, aren't you? It should be available any time now, so all you ST-owning bridge-playing Omar fans can rush out and buy a copy. Or five.

HUT! HUT! HUT! SHED!

A smallish company called Strike Force Design have written what they think is the only decent American Football game on the ST, *Touchdown!* They claim it includes more strategy, more excitement and better graphics than anything else available and, in effect, is written by fans for fans. The game simulates an entire season, including the Superbowl, using a friendly mouse-driven interface. Details such as spying on opposing teams, the ability to trade players, 1,000 different players in the game and getting the sack make the game the closest yet to the real thing, apparently. Since it's not being released in the shops, it's only £14.95. It's out next month, and Strike Force are offering a demo with a single game and limited graphics for £2.00. They're at 28 Noble Street, Hendon, Sunderland, Tyne & Wear SR2 8LU.



● Two seconds into the game and we're stopping for a commercial break. *Touchdown* from Strike Force Design – for those who like their games big, American and incomprehensible.

GET ST FORMAT DELIVERED TO YOUR DOOR AND SAVE MONEY

PD library raided

by Clive Parker

Trading Standards officers recently raided a leading Public Domain library and seized 42 disks of software.

The 39 titles seized from the South West Software Library in Dorset are mainly digitised sound and picture demos, and some demo versions of commercial software. The issue seems to be whether sound samples, digitised pictures and the like may be a breach of copyright.

Sound sampling has raised copyright questions in the software industry, but there is no clear definition of what does or doesn't constitute a breach of copyright laws. There have been legal problems in the music industry with musicians sampling other people's work and using it in their own compositions, but this type of case has not yet occurred in relation to PD demos.

We contacted Martyn Dryden, who runs the South West Software Library, but he feels it is unwise for him to comment on the situation until the investigation is completed. Sampled demos are not the main feature of his library.

Paul Glover of the ST Club has withdrawn sampled music demos similar to those seized from South West, plus most of his Star Trek and digitised TV material. Jake Bain of Caledonia PDL has removed the software on the list from his collection and said: "Unless we are told otherwise by the relevant authorities we will not be removing anything else from our catalogue which may contain sound samples."

Mike Goodman of Goodman Enterprises said he is not completely surprised by the situation, considering all the publicity PD gets these days, with magazines dedicated to the subject – including the best-selling *Public Domain* magazine from Future Publishing, publishers of *ST FORMAT*. "I can understand artists being upset by having whole songs reproduced on floppy disk," he added, "although it seems pointless worrying over snatches of songs or speech being sampled."

It is not clear why Trading Standards have acted as they did. There is no way a sampled song on disk could match the quality of the original, so no-one would buy a PD version of a song on a floppy disk in preference to the original recording. Little profit is made by the people who make the demos because they are distributed freely, and a sampled demo of a song is more likely to act as an advertisement for the



● Where does he get those wonderful digitised pictures? Not on disk from a PD library – not at the moment, anyway.

original than as a replacement.

One of the disks seized was the demo of the word processor *Protext 5.5* – odd because the demo is actually produced by Arnor Ltd, who publish *Protext*. Publishers often release partly-disabled demos of their programs into the PD market to give potential buyers a chance to try them out before buying the full version. Douglas Thompson of Arnor told *STF*: "We are quite happy for the demo version of *Protext* to be distributed by PD libraries as long as it is not altered in any way or charged for."

At the time we go to press, the Dorset Trading Standards Office has refused to comment.



SOFTWARE SEIZED

The full list of disks seized from the South West Software Library

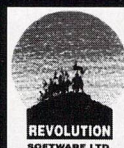
Disk 148	Trek Talk
Disk 275	S'Express
Disk 338	Ghostbusters
Disk 442	Running Up That Hill
Disk 463	Like A Prayer
Disk 503	Kylie
Disk 577	Voyages of the Enterprise – Then and Now
Disk 581/1510	Encounter at Arcturus
Disk 701	Batman
Disk 736	Star Trek
Disk 737	Tiffany
Disk 738	Rocky Horror
Disk 740	I Think I'm a Clone Now
Disk 780	Batman 3
Disk 819	Gremilins
Disk 842	Timeworks DTP Demo
Disk 845	Revolutions
Disk 915	Protext 5.5 Demo
Disk 948	I Want It All (1)
Disk 974	Souvenir Of China
Disk 985	Predator
Disk 990	Robocop 2
Disk 993	Genesis
Disk 997	Mr Spoon
Disk 1006	Dr Who Sound Demo
Disk 1015-1017	A Kind of Magic
Disk 1020	Oxygene 4
Disk 1144	Next Generation
Disk 1197	Monty Python/Young Ones
Disk 1243	Vogue
Disk 1247	It's a Sin
Disk 1266	DeLuxe Paint Demo
Disk 1315	Poison
Disk 1316	Trash
Disk 1317	Eternal Flame
Disk 1325	Indiana Jones
Disk 1565	Star Trek
Disk 1753	Cartoon Time
Disk 1871	NTWICM 8

Now
let the game commence.

LURE OF THE TEMPTRESS

*...I can resist everything
except temptation...*

Oscar Wilde



– SEE PAGE 62 FOR DETAILS

New machine confirmed

by Mark Higham

Atari have confirmed they are developing a powerful new ST-compatible machine, as *ST FORMAT* reported last issue.

Atari's founder Jack Tramiel gave a sneak preview of the new system at the Ce-Bit show in Hanover in mid-March, and the machine is "currently being introduced to the developer community," says Atari's PR man Peter Walker.

Atari are looking to release a machine which falls midway between the STE and the TT, enjoying the same mass market appeal as the ST. A £600 price tag is being suggested, though this may change. We understand that Atari are working on the possibility of achieving ST-compatibility by putting all the ST chips onto a single chip in the new machine, which could go some

way to explaining the low price.

Technical details are being closely guarded, but Walker did confirm that the new machine is the project code-named Falcon. Atari are refusing to confirm or deny speculation about the new machine but we've managed to uncover more details. The most exciting of these is the fact that the Falcon has a 68030 processor chip compared to the ST's 68000 processor. This means the new machine can operate at 33MHz – over four times faster than the ST. 14MBytes of memory can be added to the Falcon using SIMMs identical to those in the STE. It seems that the Falcon '030 is considered a follow-up to the 1040 STE and it's likely to come in a case styled along the lines of the 1040 but black rather than grey.

All the ST and TT screen modes are possible, except 1280x960 pixels. It also seems likely that you'll be able to have 65,535 colours on screen from a choice of 256,000. All the normal STE ports will be included. MultiTOS (see page 22) is also going to be included

as standard.

ST FORMAT broke the news of this top-secret project in issue 25, and at the time Peter Staddon, Atari's then Marketing Manager, revealed: "Falcon is an umbrella project combining several areas of current technology. It will be launched into the high end of the ST market. Falcon will combine leading new technologies such as CD drives with a high end operating system such as Unix, in a bundle with TT-based technology." Atari would not now confirm

whether the Falcon project still incorporates CD-based ROM technology. If it did, the new machine could offer dazzlingly fast access to truly huge and complex programs, including games bursting with sampled sound effects and digitised graphics.

Atari are trying to dampen speculation about the specifications and the price of the Falcon and insist that it will not be released "until development is complete. This," they say, "is not anticipated before early 1993."

FAST CARS AND BULGING WALLETS

You may have heard of a smallish company known as Jaguar. They produce the odd car or two, and their latest one is a budget number called the XJ220, yours for £350,000. Unfortunately, the peeps at Core Design couldn't quite whip up enough cash to get themselves one, so they decided to write a simulation of it instead. Because they're gents they asked Jaguar to endorse it, and whaddya know, they did, with a great deal of amiability and niceness all round.

The resulting racing game, written by the same programmers behind the fabulous *Thunderhawk* and cunningly titled *XJ220 Sports Racing*, will feature 72 stages of fast driving and much posing. The game should be out sometime this month and will, of course, get its very own *STF* rating next month.

ST shines at world's biggest music show

by Vic Lennard

New releases for the ST once again took pride of place at the greatest show on earth – or at least the largest music show: 1,150 stands from 40 countries taking up the space of five aircraft hangars!

At the Frankfurt Music Messe last month, a host of new packages were on display for the ST. Steinberg released *MasterScore 2*, replacing the disappointingly bug-ridden first version. It is a full-blown desktop music publishing program, enabling you to create and print out scored music. It sells for £325, and input can be from any of the Steinberg sequencing programs or via MIDI File from any other program, along with step time input from a MIDI keyboard or ASCII from your ST keyboard.

Auto-accompaniment programs are coming out in force, but Steinberg's *Tango* appears to be rather different. *Tango* takes a line that you play in and then modifies it in various different ways for up to six "virtual" (ST) players to join in. You control the situation by fixing the tempo and restricting the ST players to certain pitches and lengths of note, for example. Price is around £200.

Cubase Lite, Steinberg's cut-down version of their best-selling *Cubase* sequencer, offers you up to 12 tracks and both score editing and printing, as compared with the 64 tracks and further editing facilities of the full-blown *Cubase*. Price is as yet unknown,

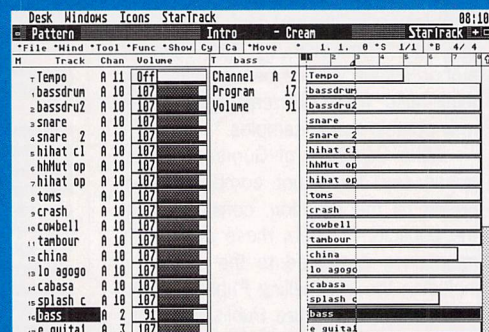
but probably about £120.

Cubase v3.0 was introduced, boasting much better score editing and printout – in fact, it uses many of the features from *MasterScore 2*. Also launched were various "modules" for *Cubase*: *Style Trax* is an auto-style program; *Cue Trax* enables you to set the tempo graphically; and *Studio Module* is a universal sound librarian. Each of these is likely to cost around £120.

Steinberg were also showing the *DMA Grooves* – disks put together by WC Music Research in Canada, which can be used with *Cubase* to impose the feel (or "groove") of well-known songs onto your own songs. For instance, you can take the feel of Madonna's "Papa, don't preach" and foist it on one of your ditties. Price in the UK isn't fixed yet, but will probably be around £15 – £20 per set.

The only software stand from France was Time Tech's, but their new *MIDI Share* could be revolutionary: it is a multi-tasking system for the ST, enabling you to load and run different programs at the same time. The first sequencer to use this system was also on show on Time Tech's stand – *Star Track* by Geerdes – and if other software companies take it up, *MIDI Share* could become the standard for multi-tasking on the ST.

Star Track's features are impressive, and are based on a modular system which enables you to add more features as they are created and you find you need them. You can also set up the graphic environment as you wish. Price in the UK is £149. *Star Track* is well worth a look at if you want an ST



● *Star Track?* No sign of Captain Picard and crew, but possibly the first of a new generation of sequencers – this is the first to use *MIDI Share*, the new multi-tasking MIDI system developed by Time Tech. It may be a race to see whether this system or Atari's own MultiTOS (page 22) becomes the new standard.

sequencer but haven't decided on which direction to jump. It will be on show at the MIDI Music Show at the Novotel, Hammersmith, West London, from Friday 24 to Sunday 26 April. (For details, contact Westminster Exhibitions ☎ 081 549 3444.)

C-Lab, well known for their *Creator* and *Notator* sequencers, have now brought out a generic synth editor, *Polyframe 2.0* (around £350). It has modules for many current synths – including the Yamaha SY and TG range, Korg M1, Roland D-50 and Yamaha DX7 – and the Universal Application module enables you to create an editor for your own synths (although to do so you'd need a good working knowledge of

They have a cunning plan

by Ed Ricketts

The big licence release of the year, *Plan 9 from Outer Space* from Gremlin, draws ever closer. Just to refresh your memory, *Plan 9* is generally regarded as being the worst film ever made (though have you seen *Last House on the Left*? Now there's a bad film), and is worth catching on one of its rare Channel 4 showings. It was directed by Ed Wood Jr, "starred" Bela Lugosi for about two minutes until he died (he wasn't even supposed to be in it at all, and then they brought in a stand-in who looked nothing like him) and has enough continuity errors, awful dialogue and sumptuously tacky sets to make that classic ITV series *Chimera* look decent.

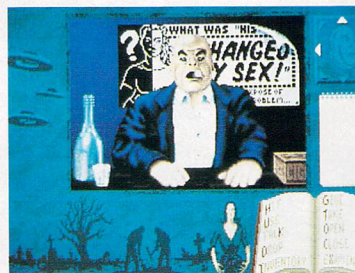
The game doesn't really follow the plot of the film, which is a relief since the film mostly consists of people wandering about and screaming. In the game, you take the role of a PI hired to recover the six missing reels of the film itself. This task takes you all over the world and spans more than 70 locations, each with a graphic. Interaction is



● A scene from the film. Paula gets a little worried as the reanimated Inspector Clay explains to her the size of his... er, perhaps not, actually. He's just trying to convince her that he really was a police inspector. I mean, he looks less credible than Morse.

achieved solely with the mouse using a verb/noun constructor like the one used in Gremlin's previous adventure *Suspicious Cargo* – none of that nasty text typing.

At various locations there are cinemas where you can watch the bits of the film you've already recovered, and even a film editing room which enables you to splice together your bits (as it were) to make a complete, but very short, film. All these film reels are digitised from the actual film. What's more,



● Tor Johnson playing Inspector Clay playing the movie producer in the game of *Plan 9 from Outer Space*. This is the geezer who hires you in the first place. Note the poster on the wall behind him advertising another of Ed Wood's classic masterworks.

in-jokes, sub-plots and film memorabilia lie in wait for those B-movie fans who seek them out.

Ironically, Gremlin say they had more trouble getting the licence for *Plan 9* than most of the other licences they've gained, simply because they couldn't trace the copyright owners. Still, the result of their labour should be out this month – and if nothing else, *Plan 9* – the ST game should give budding student film-makers a good indication of how not to do it.

BITS

Rumours, recantations and releases

● Some of the first batch of the new Atari SM-144 mono monitors (£148.00) have had a problem with their display and need to be adjusted. If yours is affected, contact the dealer you bought it from to arrange this. Atari say this problem arose because the first batch of SM-144s to arrive in the UK were delivered straight to distributors without first going through Atari's warehouse. Atari are testing all new SM-144s arriving in the UK and making the adjustment if it's needed. Atari are on ☎ 0753 533444.

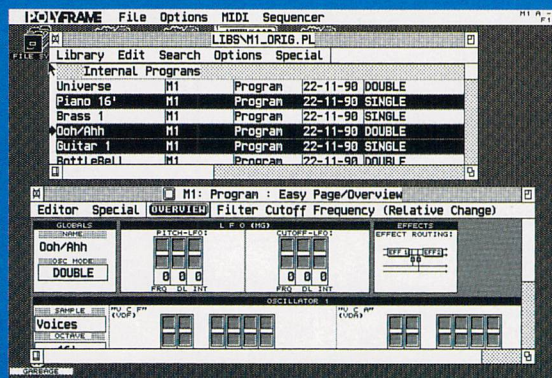
● Ladbroke Computing (☎ 0772 203166) have cut their Datapulse 105MByte hard drive with GEOSoft controller to £449.99 and 105MByte ICD drive with clock to £474.99. Their STE Special Packs have also been cut: a 520 STE is £250, a 520 STE with 1MByte upgrade is now £260, and a 520STE with 1MByte and the PC emulator PC Speed fitted is £349.99.

● There was a shortage of Mega STEs in the shops during March. Atari's Marketing Manager Darryl Still explained: "This was purely because of demand for the machine outstripping expected sales. The entire stock of Mega STEs imported for March was sold within the first week. We have had extra stocks imported to cover the shortfall, and we have increased future import levels to match the new sales levels," currently about 100 units a month – impressive for a high-spec machine costing at least £580.

● Jennix Public Domain library have closed and sold their collection to Merlin PD. Jennix's Nicholas Klee said: "We were running the PD library in our spare time and there was not enough return for the effort being put into it. We were receiving more enquiries than orders, and it was either a case of expanding to become a full-time business or closing the library down." Everything available in the Jennix collection can now be obtained from Merlin on ☎ 0453 882793. All back orders sent to Jennix have been honoured and any new orders they receive will be returned along with any payment sent.

● Adrenalin Software have released a range of digitised sound samples for use with Microdeal's *Quartet* sample player or any other software that can utilise the AVR format, for just £3.00 a disk. The first two disks each contain 50 samples, consisting of top quality instrument, synth and drum sounds recorded in 16KHz AVR format using the *Mastersound 2* sound sampler. Although the disks are cheap they are copyrighted commercial releases, not Public Domain. Adrenalin plan more disks soon with digitised pictures and sound samples from films. (Do Trading Standards know about this?) Details from Adrenalin on ☎ 021 475 7618.

● There have been rumours in the trade that Cumana (☎ 0483 503121) had stopped making external floppy drives for the ST. We contacted Cumana's marketing manager, Steven Dickenson, who flatly denied the rumour and said that there were no plans to do so. He told us that Cumana are in the middle of a production run of 1,000 ST drives and have ordered a new print run for the instruction manuals. He said Cumana were taking orders for ST drives from distributors and they would continue to do so.

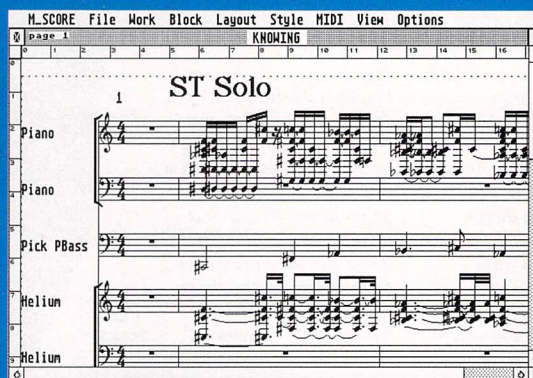


● **Polyframe** is a new generic synth editor from from C-Lab, the people behind the professional standard *Creator* and *Notator*. It offers a multi-page display (shown here) and an "overview" facility (the lower window in this picture).

MIDI and System Exclusive, the method used for transferring MIDI data from a synth to your ST). Also available is *Monoframe* (around £250) which simply gives you a single editor module plus the Universal Application module.

An Italian company by the name of Sample-Tools released a series of editors on the ST for use with samplers. *Polystar* is a librarian and editor for the Akai S-1000/1100 and Roland S-770/750; *Parastar* is a real-time parameter and wave editor for the S-1000/1100; *Wavestar* is a librarian and editor for any sampler which conforms to the MIDI Sample Dump Standard. Prices range from £160 to £400.

DVPI launched *Session Partner*, an auto-accompaniment



● **MasterScore 2** is a full-blown desktop music publishing program capable of accepting input from different sources – Steinberg's sequencing programs, other programs (as MIDI Files), a MIDI keyboard and even your ST keyboard.

program with 16 available parts, each of which can have a different style. You work in blocks of four to 16 bars and can also change "grooves" on playback – effectively each style has different sub-styles. DVPI have no distribution in the UK at the moment, but you can order *Session Partner* for about £120.

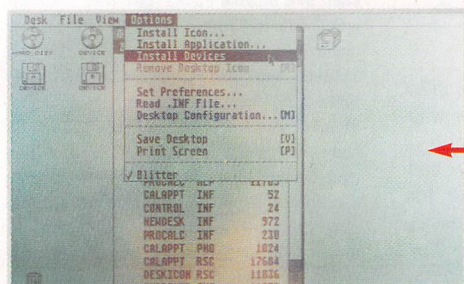
Friendship, makers of the remote control device the K.AT (reviewed in STF 29), were showing the DC K.AT, a full-blown Desktop controller with remote control buttons to which you can assign any of the ST's keys, a heavy-duty wheel for cursor movement and buttons to take the place of the mouse buttons. Cost is likely to be around £250. Watch for reviews of these and other new releases in STF.



The ST Book uncovered

The long-awaited laptop ST, the ST Book, is here at last. *ST FORMAT*'s Clive Parker gets his hands on the machine and gives it a thorough testing

THE PORTS



● **The Book/eyeball interface.** Er, okay, it's really the screen. But it's a perfect example of the thinking that went into the Book: it offers a crisp high res display, but with no backlight – a deliberate design decision to save power, meaning the batteries last up to six times longer. Atari are banking on the trade-off succeeding.



● Battery pack

The alkaline or NiCad battery pack slots in at the rear left of the Book. The alkaline battery pack carries seven AA size cells, which Atari claim could last for up to ten hours of continuous use.

● ST Book expansion bus

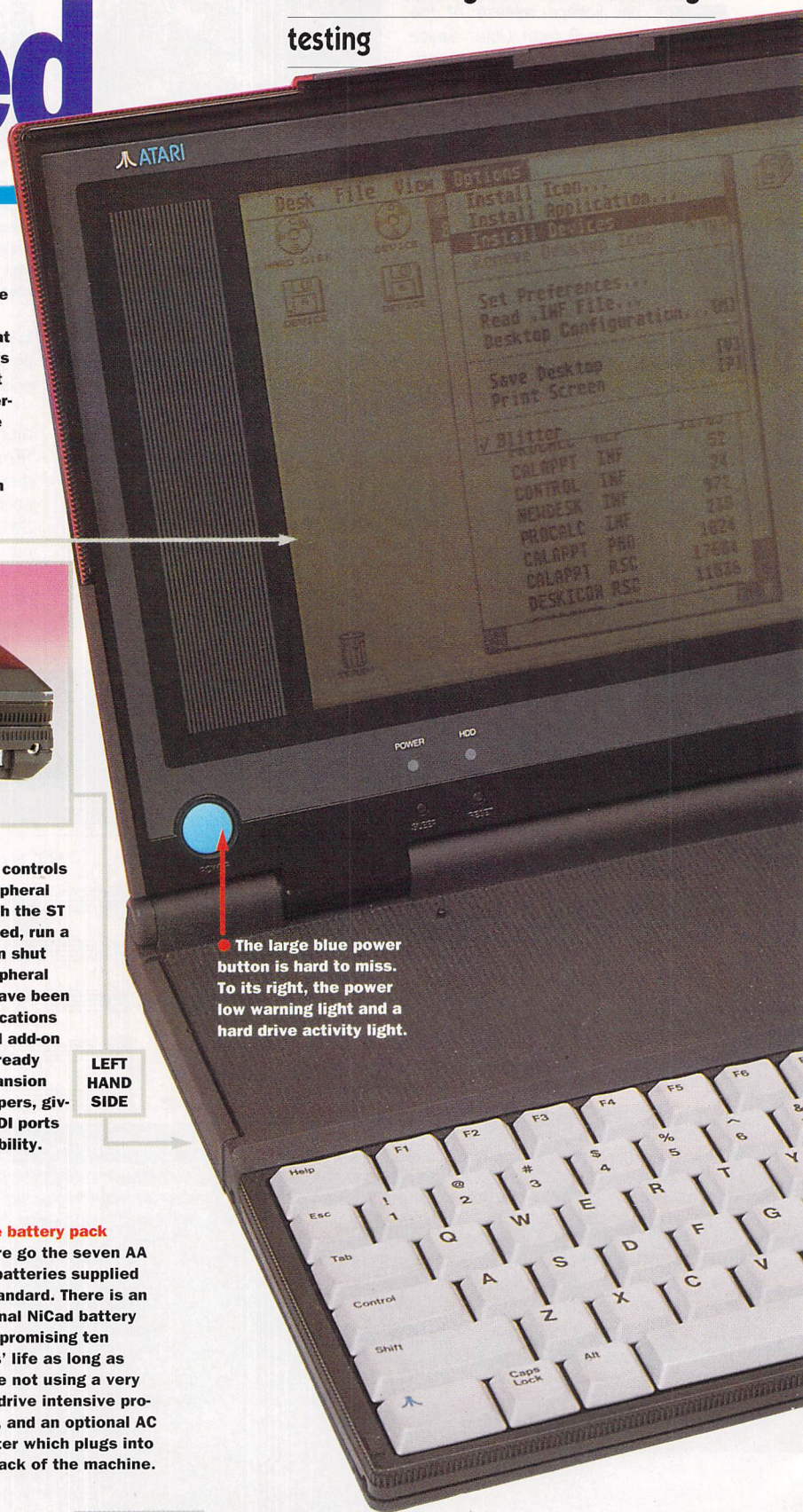
A 120-pin expansion connector, carrying all the signals required for a standard ST cartridge to work with a special adapter (which needs only to link the Book connector to an ST edge connector – no other electronics are required). The expansion connector also carries every signal of the 68000 processor, memory control signals,

clocks, interrupt controls and so on. A peripheral could even switch the ST Book on if required, run a program and then shut down again. Peripheral manufacturers have been given full specifications so they can build add-on devices. Atari already have a MIDI expansion ready for developers, giving five extra MIDI ports and SMPTE capability.



● The battery pack

In here go the seven AA size batteries supplied as standard. There is an optional NiCad battery pack promising ten hours' life as long as you're not using a very hard drive intensive program, and an optional AC adapter which plugs into the back of the machine.



LEFT
HAND
SIDE

● The large blue power button is hard to miss. To its right, the power low warning light and a hard drive activity light.

UNDER
SIDE

Atari's compact new portable ST, the ST Book, is finally going on sale by the end of the month. It's an ST, hard drive and mono monitor all contained in one sleek package which easily fits into any briefcase, so you can finally take an ST with you wherever you go – business meetings, customer demonstrations, live music performances or wherever you want ST power on the move.

We tested one of the first pre-production Books to arrive in Europe. The machine is amazingly small and light –

it's the size of an A4 sheet of paper and weighs just over four pounds – but unfortunately its price reflects its business orientation: the base model will set you back £1,295, putting it outside the price range of most ST enthusiasts. However, Atari are confidently predicting sales of up to 10,000 ST Books by the end of this year.

What do you get for your money? The entry-level machine comes with 1MByte of RAM, a high resolution 640 x 400 pixel LCD display and a built-in 40MByte hard drive. There are also to be 40MByte and 80MByte hard drive versions with 4MBytes of RAM installed, with the possibility of higher capacity drives available later. Included is TOS 2.06 – the lat-

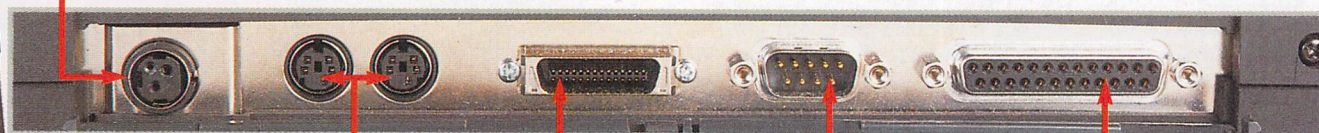
est version, as used in Mega STEs. A built-in 256K ROM disk contains the file transfer software and other supplied utilities. The display is a very sharp, high contrast, black and white LCD screen with a contrast control to adjust to different light levels. There is no backlight – a deliberate design decision, enabling the batteries to last up to six times longer.

A disastrously short battery life (as little as two hours) was the major shortcoming that scuttled the STACY, the previous portable ST, and Atari seem to have learned the lesson: they claim a battery life of up to ten hours of continuous use in programs which are not hard drive intensive. The STACY's backlight used up to six watts, whereas the Book's total power

● Universal AC adapter

This is the socket where the Universal Auto Switching AC Adapter plugs in – no surprise there. The surprise comes with the AC Adapter itself – it's a new design which automatically switches itself to the correct setting whether you use it with 110v 60Hz US power supplies

or with 240v 50Hz UK power supplies. This enables Atari to use one power supply unit suitable for all markets. Perhaps they can incorporate this technology into desktop machines in the future. The adapter really should be supplied with the machine as standard.



REAR OF CASE

● MIDI In and MIDI Out

To save space, the ST Book uses the new mini 5-pin DIN sockets in place of the usual standard sized sockets – an adapter is promised. The usual MIDI In and MIDI Out protocols are supported, along with MIDI Thru connections on the MIDI Out port. Most electronics suppliers can provide mini-DIN to standard-DIN leads.

● The Floppy/DMA/ACSI (pseudo-ACSI) connector

This non-standard Centronics style port has all the DMA signals for use with external hard drives, CD-ROM drives and laser printers. The new external 1.44MByte floppy drive also plugs into this port, which could be inconvenient if you needed to swap devices during a work session. Atari are to supply a DMA lead as an optional extra.

● Serial port

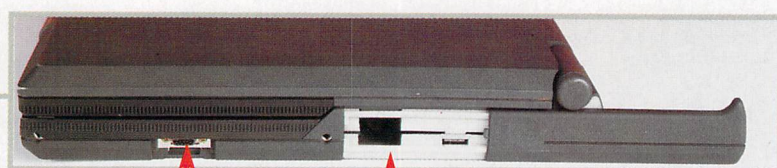
The serial port is a standard 9-pin D connector, as used on the Mega STE and the TT, suitable for use with an external modem or a null modem cable for data transfer with the file transfer software included.

● Parallel port

A standard 25-pin D connector for connection to parallel printers and other STs for data transfer. The ST Book has standard fixing points for the ACSI/DMA, serial and parallel ports, so that leads can be anchored directly to the machine, eliminating any strain on the ports themselves.

● Not a trackball, but a built-in "Vector Pad" control device. Below it, the buttons correspond to normal mouse buttons.

RIGHT HAND SIDE



● Keyboard connector

This small 10-pin D connector is where you plug in an optional external numeric keypad or a standard Mega STE style keyboard. Adding a mouse to one of these is the only way to connect a standard mouse to the ST Book.

● A mysterious space

Removing this cover (er, we couldn't resist the temptation) revealed an intriguing empty space directly beneath the Vector Pad at the rear right hand side of the machine. Although the ST Book is very compact, there looked to be

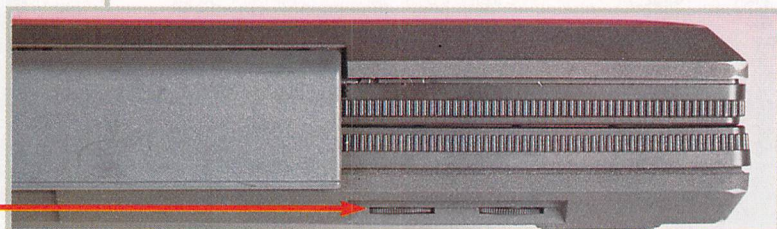
enough space under the Vector Pad for a reasonable-sized board. The square hole to the left looks to be just the right size for a telephone plug, leading us to believe that a modem or fax modem card is to be in this position at a later date.

FRONT RIGHT

● Contrast and Volume Controls

The contrast and volume controls are located under the front right-hand side of the Book. Once the volume is set, it need never be adjusted again – after all, it is only being used for beeps, clicks

and bells. You're likely to need the contrast control more often to adjust for differing light conditions, depending on where you are going to be using the machine, so the position is convenient enough.



consumption is only 1.25 watts. One of the options Atari are considering is a third-party company manufacturing a clip-on light, similar to the one available for their hand-held games console, the Lynx. There is no socket provided for an external monitor, so the Book works only in high res – another design decision to save power.

There are in fact a host of clever built-in power saving features: the machine automatically powers down the hard drive when it is not accessed for several minutes, the Video Saver routine updates the screen from the LCD control chip rather than from the main RAM until a system call is made to the screen, the Blank Screen feature switches off the

LCD driver after a preset time until there is a keystroke, and Shutdown switches off the whole machine until you press the power button. Both the Blank Screen and Shutdown features are programmable for up to 20 minutes. There is no loss of data during a Shutdown because the system has another feature called Save and Resume. This reads all the machine's registers and stores them in a special section of memory. When the ST Book is switched back on, the BIOS reads the stored data and restores the machine to the exact state it was in when the shutdown occurred – so if you were in the middle of a word processor document you would be returned to exactly the same position in the program.

Save and Resume also operates if you close the lid while in the middle of doing something – simply open up, press the power button and you are ready to continue. If the batteries should fail completely, the Book has lithium back-up cells which retain all data in memory for up to three months and still return you to the same point in an application.

Unlike the STACY, the Book has no built-in mouse port or trackball. Instead, there is a new pointer controller called a Vector Pad – a pressure sensitive disc set into the top right-hand corner of the keyboard with two buttons just below it. These correspond to the left and right mouse buttons. The disc has four sensors beneath it at the four compass points. When

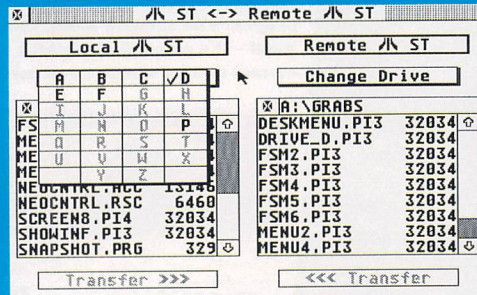
WHERE DO I STICK THE DISK, THEN?

The most obvious omissions from the ST Book are a built-in floppy drive and a standard floppy drive port. So how do you transfer your software to the ST Book's hard drive? The machine comes with file transfer software built into its ROM, a 3.5 inch floppy containing the same software for use on the external ST and a specially wired parallel port cable. The transfer software is well written and you can use it without a manual.

To transfer software between the machines, you link the Book to your ST and run the transfer software on both. Designate one of the machines as a master and one as a slave device – the master machine takes over the disk access functions on the slave. A dialog box opens up on the screen of the master machine displaying what is, in effect, a twin fileselector. You can select paths and drives on both machines just as if you were using a fileselector, so you transfer from your ST's Drive A to any of the logical

drives of the ST Book. You can transfer data by simply clicking on the file or folder to be moved so that it becomes highlighted, then clicking on the transfer button. You can select more than one file by holding down the <Shift> key while selecting. Data can be transferred in both directions, and it takes approximately two minutes to move 1MByte of information via the parallel ports. The software also supports serial transfers at 9,600 and 19,200 baud by means of a null modem cable.

It would be a sensible move for Atari to supply a DMA cable as standard with the machine for data transfer because most people buying the ST Book are likely to have systems with hard drives. Atari are providing an optional external 1.44MByte floppy drive which plugs into the ST Book's DMA/ACSI port. It is to be battery powered and only draws power from the ST Book itself if the AC adapter is connected.



● The file transfer software running on the ST Book. It resembles two fileselector boxes side by side, enabling you to select source and destination drives and paths.

WHAT SOFTWARE CAN I RUN ON IT?

We tested some commonly used software on the ST Book to see how well it performed.

The first program we tried out was the replacement Desktop *NeoDesk*. Unfortunately we were unable to get it to run. On attempting to load the program, we got an error message asking us to load the program from an AUTO folder (where it was) or from the Desktop. We tried various setups to no avail.

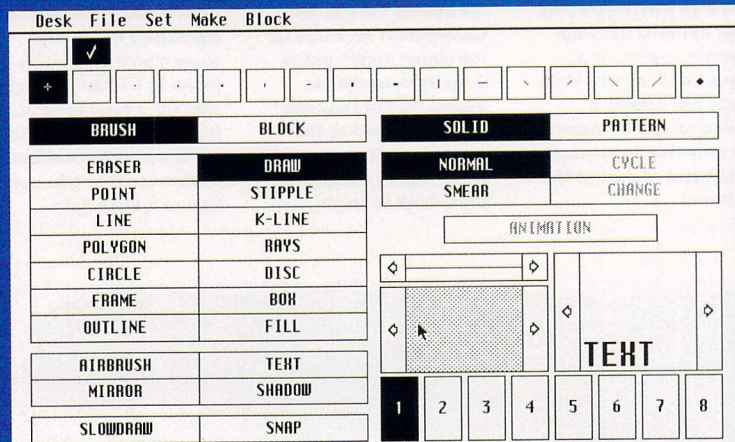
Art package *Degas Elite* loaded immediately with no fuss. Several prepared PI3 and PC3 pictures loaded without problems, although the compressed PC3 files seemed to take longer to decompress than on a normal ST or STE. Low and medium resolution pictures were imported, con-

verted and saved. One strange aspect was that saved picture files were given a P14 filename extension – it is possible that this is a TT resolution. Screen updating was indistinguishable from that on Atari's SM124 or SM144 mono monitors and the display was crisp and clear with no discernible distortion. The problems arise when you attempt to draw something – it is practically impossible to control the pointer well enough to draw anything. The Vector Pad is just not a viable alternative to a mouse in a drawing package.

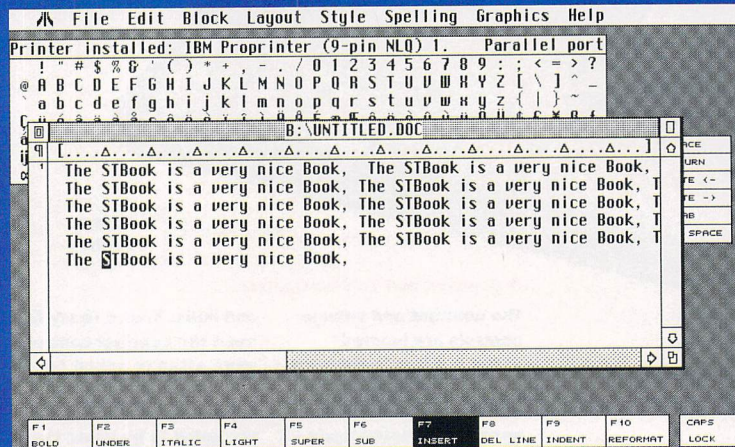
1st Word Plus also loaded without any problems, apart from looking for a non-existent path for documents. This was because of the way it had been configured before

being transferred to the Book. The loading of a 64K text file – including several copies of the famous Tiger image – was as swift as on our office machines. The screen scrolling was quite slow, but this is normal for *1st Word Plus* – it's not the speediest of programs. Once again the problems came with the Vector Pad. Marking out blocks of text or moving to a point on a line to edit a word is simply a frustrating task. Using the menus to load and save files is easier, but still not perfect. Luckily, *1st Word Plus* has several keyboard shortcuts which can make things easier.

The *Tempus 2* text editor was another program which loaded successfully. Screen updates and scrolling were as speedy as usual with *Tempus*, but the Vector Pad again let



● *Degas Elite* looks good on the ST Book, but don't try to draw anything unless you particularly like wavy lines – the Vector Pad isn't really up to it.



● **1st Word Plus** fared better on the Book, mainly because it uses keyboard shortcuts for most of its main functions.

you press on the upper left of the pad, it detects the pressure on the top and left sensors and works out the ratio between them. The resulting information gives the angle and direction of the pointer's movement. The more pressure you use, the faster the pointer moves across the screen. If it moves too fast, then the LCD display has trouble keeping up with the pointer and it can disappear from sight. This is because LCD displays have a slow update rate compared to monitors.

The pad is also awkward to use at first, the main problem being dragging windows and icons around the Desktop. After a few hours, it gets easier to control the cursor, but using the buttons to select items

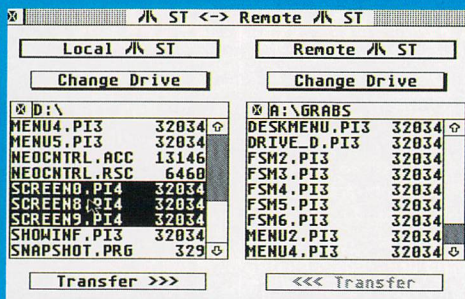
can still be a bit of a problem. The Vector Pad on the machine we were using was a bit dodgy, tending to stick down and sending the pointer rushing off the screen, but Atari assured us that the problem had been rectified on the production machines.

The case of the machine is matt black with a distinctive rubbery texture. The clip which keeps the lid closed and the back cover which protects the ports came off quite easily. Again, Atari stressed that we were testing a pre-production model and said the clips have been redesigned to be more robust on the machines now being produced.

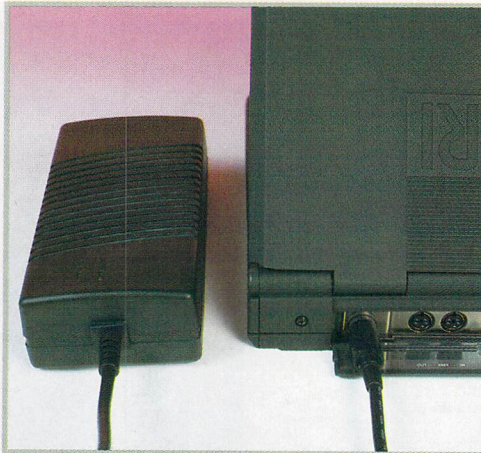
The keyboard is more compact than on a full size ST, with only 84 rather than the usual 94 keys. The

keys are smaller and closer together, although they are spaced far enough apart so you don't accidentally hit the wrong one. Some keys are in different positions – notably <Alternate> and <Help> – but they all have a good responsive feel to them even though the keystroke is shorter.

The numeric keypad has disappeared. Instead, the keypad functions can be accessed by pressing the "Atari" key (with the Atari symbol on it) and certain keys on the main keyboard. There is also a Keypad Lock key, like a Caps Lock key, to lock the Atari key and enable continuous keypad entry of data. You also have the option to connect a Mega ST style keyboard or an external numeric keypad – these plug



● Once you have highlighted the files you want to transfer, you simply click on the transfer>>> button at the bottom of the dialog box. Here we are transferring some screen grabs from the ST Book to a common or garden Mega 4 ST.



● The optional AC Adapter is well named – it automatically adapts itself to UK or US power input. It's a pity it isn't supplied as standard – many of the laptop machines the Book may well find itself competing against come bundled with an adapter.

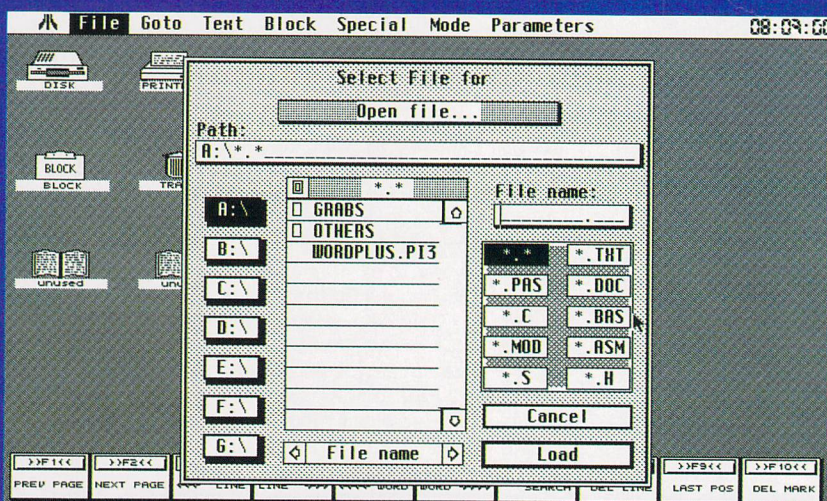
the Book down – apart from some Function Key supported options, everything in *Tempus* is operated by the mouse.

To try out the Book's built-in speaker, we transferred Atari's *Music Maker* package. Unfortunately, the program wouldn't load and run because it was looking for its data and resource files on drive A, which was not connected. There is a PD utility available called *Divert* which solves this problem by redirecting calls on drive A to any other designated drive, but we hadn't anticipated needing this and didn't have a copy. In the end, we were unable to gauge what the ST Book's sound quality was like. Musicians aren't likely to want the internal speaker for musical output, however, and it's perfectly adequate for sounding the keyclick and warning bell.

All in all, a mixed result. Two of the five packages we tried failed to run, although we may have needed more time

to set up *NeoDesk 3* properly. GST, suppliers of *NeoDesk*, say that there are no known problems with it running under TOS 2.06 on the Mega STE, and Atari think the problem may have been caused because we were using a development machine rather than the production version.

The Vector Pad seems to be the main drawback when using software on the ST Book, but we felt that with more time to practise it would become easier to use for point-and-click work. It is not really suitable for mouse intensive applications such as art or CAD packages, but it is well suited to GEM applications with lots of boxes and menus to click on. The lack of a backlight was no problem working in a normally lit room – the high contrast screen was clear and easy to read. Using the machine on the move may prove to be a different matter – trains are not noted for their well lit conditions.



● *Tempus 2* worked well on the Book with its legendary scrolling speed unhampered by the LCD display.

THE TECHNICAL BITS

The ST Book is basically an ST redesigned using low power components to achieve prolonged battery life in a compact portable unit. The full specifications are:

- **System architecture**
 - 68HC000 CPU running at 8MHz
 - 32-bit internal data bus
 - 24-bit external address bus enabling 16MByte of address space to be accessed
 - 16-bit data bus
 - 1MByte or 4MByte low power Pseudo-Static RAM
 - 512K ROM
 - Blitter chip
- **Expansion connector**
 - 120-pin expansion connector enabling access to the CPU bus
- **Graphics**
 - 640x400 high resolution high contrast LCD screen
- **Sound**
 - Three voice Programmable Sound Generator (PSG), piezo electric speaker
- **Standard ports**
 - MIDI in, MIDI out
 - RS232 serial port
 - Parallel printer port
 - Floppy drive/ACSI DMA port for optional 1.44MByte external floppy drive, hard drive, CD-ROM, laser printer.
- **Keyboard**
 - 84/85 Keys, ten function keys, four cursor keys.
 - Optional 18-key external keypad and external Mega keyboard may be connected
- **Data storage**
 - 40MByte hard drive, 19ms average access time
- **Mouse control**
 - Vector Pad mouse controller. Atari mouse can be connected via optional external keypad or keyboard
- **System software**
 - TOS 2.06 in ROM. Calculator, Diary/Calendar, Address Book built-in. Newdesk Desktop and Xcontrol Control Panel
- **Dimensions**
 - 8.5 inches x 11 inches (A4) x 1.4 inches.
 - Weight 4.3 lbs (2 kilos)
- **Power supply**
 - Seven AA Alkaline battery pack (five to ten hours battery life) supplied. Optional rechargeable NiCad battery pack and AC adapter. NiCads recharge in two hours while the machine is running and in one hour when switched off. AC adapter also powers the external floppy drive if connected.

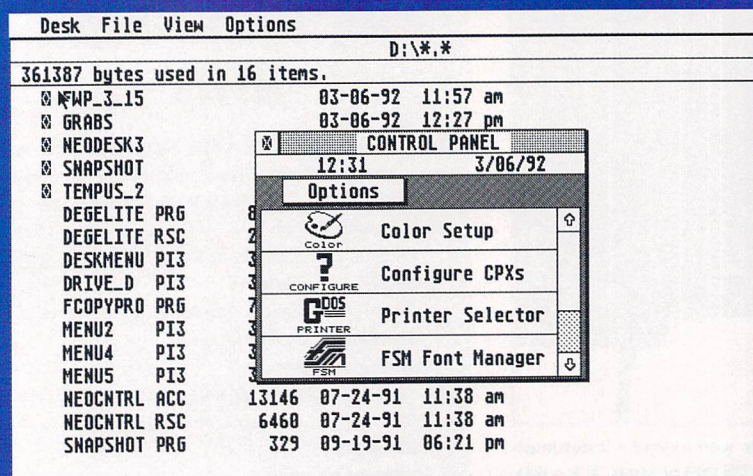
into a small D connector on the right-hand side of the Book's keyboard.

Atari are aiming at the MIDI music market, advertising the ST Book initially in music magazines and sending information packs to music retailers. The first add-on for the Book is to be a MIDI expander, adding extra MIDI ports and SMPTE timing capability. This module is large enough to contain third party "dongle" hardware within it and is to be made available to MIDI software and hardware manufacturers and suppliers. Atari are also considering a cartridge adapter to enable you to plug existing ST cartridges straight into the ST Book expansion port. This will enable you to use packages with cartridge dongles,

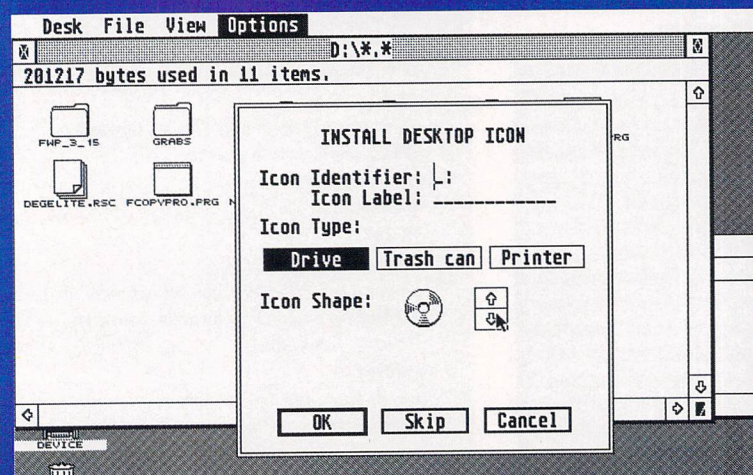
such as Steinberg's *Pro 24* sequencer, on the new machine. The Book should appeal to the music market, considering it is so portable and the ST already has so much MIDI specific software available for it. In the professional music world, £1,295 is not an enormous amount of money to spend on equipment – a medium specification MIDI synthesizer can easily cost as much.

So have Atari finally got it right? It's certain that they have carefully thought out the design of the ST Book, learning from the mistakes made on the STACY portable. The lack of a backlight may put some people off because good lighting cannot always be guaranteed where you wish to work. The

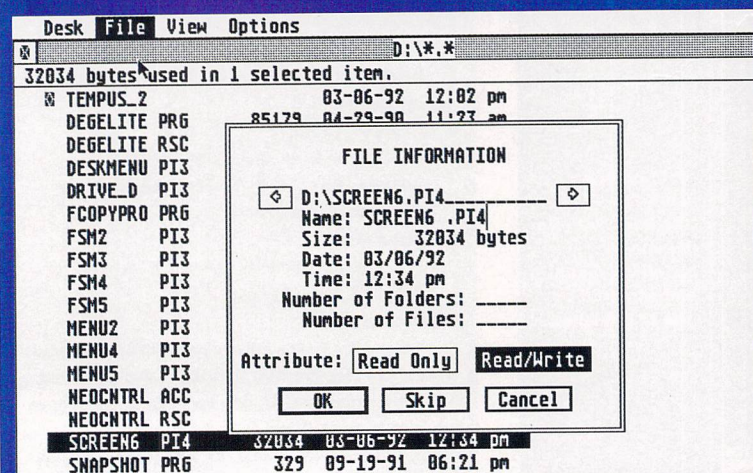
Vector Pad is a compromise solution which works well for some types of software, but not at all for other applications. The keyboard is remarkably good for a portable machine – some people at Atari claim it is better than the keyboard on an ST. The development model we tested had some design problems with the clips and expansion port covers, but Atari promise that these are being strengthened and otherwise the machine performed well. Atari should seriously consider bundling the AC Adapter and the DMA lead with the machine – they are essentials, not optional extras. The Book is capable of being a good machine and it should do well in its target market as long as the few design problems are rectified. **stf**



● The *XControl Panel* Accessory. Here there are several CPXs loaded into *XControl*, including Atari's long-awaited new version of GDOS, FSM-GDOS (for details, see News pages in *STF 33*).



● Hello, what's this then? The ST Book comes complete with a set of icons you can assign to various drives and devices. This one appears to be a CD-ROM drive icon. Is there something we should know?



● The Show Info dialog from the File menu is more versatile than the equivalent in the old TOS versions. You can select a group of files to study or rename and scroll through them using the left and right arrow icons to either side of the filename. Here is one of the grabs which the Book handily saved in *Degas* PI4 format.

THERE'S A DESKTOP ON MY BOOK!

The ST Book uses the same operating system as the Mega STE series of machines – TOS 2.06. This is the ST version of the TT's operating system, which gives greater control over the Desktop functions and enables you to assign individually designed icons to different programs in the same manner as *Neodesk 3*.

The drop-down menus have many more options than the old versions of TOS and there are keyboard shortcuts for all Desktop functions. What's more, you can reassign the shortcuts to different keys to suit your own preferences – a big bonus for the ST Book.

The greatest change is in the Control Panel – Atari's new *XControl Panel* is now supplied as standard with all new machines. *XControl* replaces the old Control Panel Accessory with a new system which enables you to load and unload Accessories while using an application. *XControl* takes up one Desk Accessory slot in the Desk menu. Select it and it opens up a dialog box similar to the old Control Panel.

This dialog box displays the current Accessories loaded, called Control Panel Extensions (CPXs), and an options box. A CPX can be a colour palette controller, a modem setup control, a mouse accelerator or any type of utility which would normally use an Accessory slot. A Setup option in the Options menu enables you to configure the number of CPX slots (up to 99) and set up the path to load the CPXs.

WHAT DO I GET WITH IT?

The basic ST Book includes as standard a set of seven alkaline AA batteries and a battery pack, a specially wired parallel cable to enable you to transfer data between the ST Book and other STs, a 3.5 inch disk containing the file transfer software (for use in the ST), a user manual and an Applications Software manual.

Optional accessories include a mini MIDI cable, an ACSI/DMA adapter cable for external hard drives, the AC power adapter, a NiCad battery pack, a portable 1.44MByte floppy disk drive, a plug-in music module adding five MIDI ports and enabling MIDI SMPTE timing control codes to be used – and a carry bag. The prices for these accessories are not yet available.

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Art for art's sake

16 colours and 64,000 pixels are all it takes to create pictures like these. With your ST and this month's Cover

Disk, you've got all you need to draw your own. Bill Croan guides you step-by-step through three different pictures he prepared earlier

We've all picked up a paint package, made a few haphazard squiggles, admired the range of tools and toyed with the air-brush before putting it back down again with the comforting knowledge that you could, if you wanted, create your own masterpiece. The trouble is, either you never get around to drawing or you find those wonderful tools don't count for much if you don't know what you're doing. Well, now's your chance to create something spectacular, simply by following these steps. To help you along your way, we've put a version of *Canvas* on our Cover Disk, as well as the first screen from each sequence.

Every picture you see here has been created in *Canvas*. If you want to use a different art package, then we've given you suggestions on how to carry out the same task elsewhere.

Before you put mouse cursor to screen, you need to give some thought to the colours you want to use. Actually, you don't need to make any firm decisions at the moment, though you do need to set a foreground and background colour. The ST displays its pictures using coloured light rather than coloured paint, so consider the background colour carefully – see the box about Colour methods at right.

The other colours can wait for now unless you're copying a photograph, where you have a good idea of the colours you want to use beforehand. This enables you to select colour while you're creating your picture. But be warned! After you select your background colour and a contrasting foreground colour, you only have 14 colours left, so you need to be careful you don't run out of colours in the process of drawing your picture – this isn't difficult!

In *Canvas* the first colour in the palette is the background colour and the second colour is the foreground. If you make these colours too similar, then you can't read the *Canvas* menus. If you drew your picture in *Canvas* and then loaded it into *Degas Elite*, you'd find all the same colours in the palette, but your foreground colour would be at the start and your background colour at the end of the list of colours.

When displayed, these colours are constructed from combinations of red, green and blue light. If you have an STFM, you can access 16 colours from a choice of 512. STEs can access the same 16

colours but from a palette of 4,096! Not all art packages can display the STE's extra colours, so whenever we have quoted a colour reference we have given the RGB value of the STE followed by that of the STFM (as in "SAND COLOUR = 10/06/00 [5/3/0]").

After colour, your next hurdle is how to get started. Just as writers stare at a blank page for hours wondering how to begin, artists go through the same turmoil. Here are three good suggestions, all of which have been used by artists for centuries. First, you can kick off with doodles. Instead of a pencil in your hand, you have your mouse – but you can just scribble on your ST's screen just as easily. Play with the tools, make shapes, colours and patterns. Experiment!

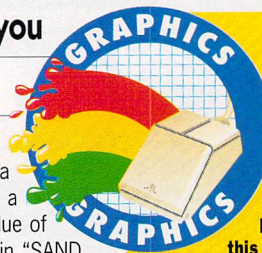
Alternatively, try simplified shapes or finger painting. Children don't draw an outline before putting paint onto paper. Instead, they paint a circle for the sun and a triangle for their mother's skirt and build up

To get started, you can doodle, try simplified shapes or copy an original using a grid for accuracy. Follow all three methods at right.

pictures in this way. With plenty of drawing tools available, it's easy to make such shapes in *Canvas*.

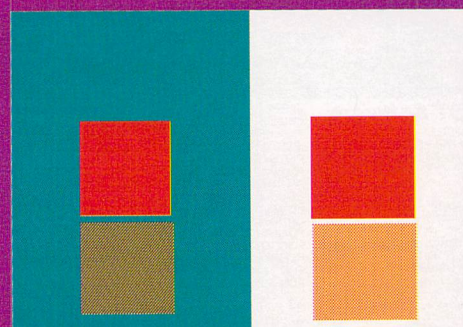
The third method is that used in the old "Paint along with Nancy" series and popularised by painters striving for realism and accuracy. By drawing a grid, you can compare distances between objects, ensuring you reproduce each line in the same place.

To give you an idea of what you can do with these three different methods, we've used each one to create a different picture. Any method could have been used, though. There's nothing to say you can't use the grid method to create the Cartoon picture or any method to create the Mountain picture. The choice is yours, based upon your picture's subject and style – but, more importantly, on your own ability and how comfortable you feel with your chosen method. Now pop a copy of *Canvas* in your disk drive and start to have some fun!



HOW TO GET GOING

This issue's Cover Disk has everything you need to get started – a complete art package (the latest, improved version of *Canvas*), plus the starting screen for each of the three pics explained here. Follow this step-by-step guide and you could win a £100 scanner! Details below.



● To demonstrate the effect of different background colours on an adjacent colour, look at these red blocks. The red block at the top left looks brighter than the one on the white background. The effect is even more startling if you use the Fill pattern in a chequered pattern and the Write mode on X-Ray. What you see is the grey background showing through, making it a darker shade. The box at the bottom right looks pink because of the white showing through the chequered pattern.

If you use your ST's palette wisely, you can exploit this illusion of darker and lighter shades to your advantage, giving the impression that there are more than the 16 displayed colours. The opposite of this is that if you use it incorrectly, you could create a beautiful work of art on a white background, then cut and paste it onto a darker background only to find it looks completely the wrong shades.



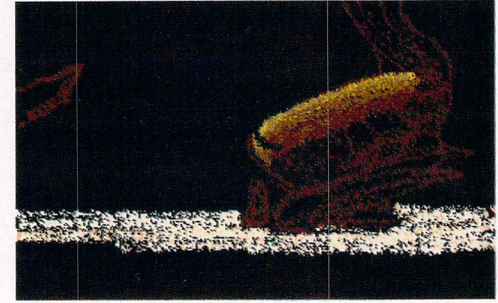
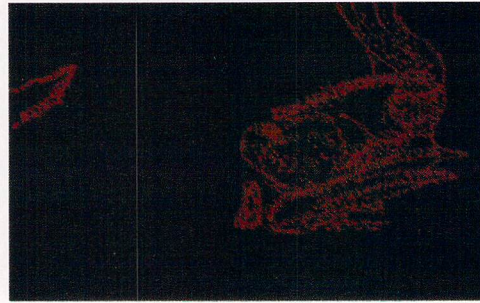
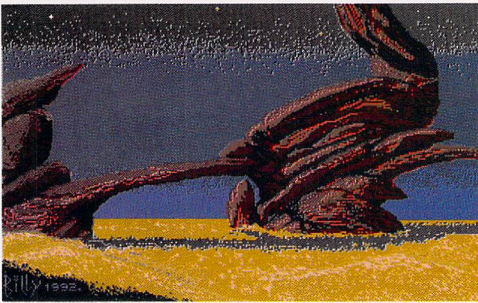
To create a highly detailed illustration like this you usually need to have a very precise sketch or original to follow. Once you have got all the tricky bits worked out, you don't

want to have to solve all the same problems over again on-screen, so you can use the grid method to transfer the picture to your ST, beginning with a tracing of the original.

WIN A SCANNER WORTH £100!

A scanner can "read" pictures and drawings into your ST's memory, so you can use them in your favourite art package – and you could win one! Along with the full *Canvas* package, the Cover Disk includes the starting picture for each of these three masterpieces. Choose the one you fancy, read Bill Croan's step-by-step guide, then load up *Canvas* and see if you can do as well. There's a Naksha hand scanner worth £100 for the picture closest

to the finished results shown here! Just save your final picture on a freshly-formatted disk, write your name and address on the label, and send it to: I've got *Canvas* covered, ST FORMAT, 29 Monmouth Street, Bath, Avon BA1 2DL. Entries must reach us by Monday 25 May; they can't be returned, so keep a copy; employees of Future Publishing and their families may not enter (nor can Bill Croan, or his family); and the judge's decision is final.



This impressive landscape began as a set of loose doodles. With this method you don't really need to have a precise vision of the finished picture in your mind – it can evolve from the shapes you're playing with. In this case, the general idea of the landscape gradually took shape – but it began with a daytime night scene, transformed only near the end into this dramatic night scene by switching the palette. This is one big advantage of using your ST for art: imagine trying to change all the colours on a painting when you're almost finished!

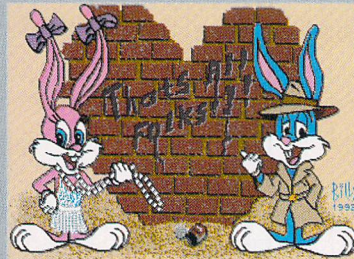
1 Select the background and outline colours first. The background colour can be set to black (00/00/00 [0/0/0]). Now make the outline colour a reddish brown (colour 04/00/00 [02/00/00]) because this is the shade we're going to use in the picture. Our subject is to be a landscape involving rocks, mountains and sand. A small Spray tool with a low flow rate (use two in *Canvas*) gives that hesitancy to your drawing – just like real doodling.

2 Now that you've virtually drawn the rock shape, you need further shades of brown and lighter sand-coloured yellows. Make sure you only use half the colour palette because you'll need the other half when you come to work on the background later.

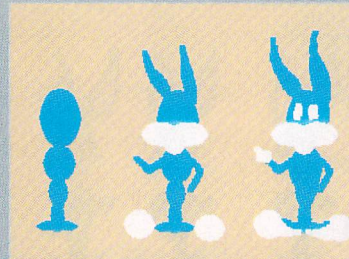
When you've selected your shades, try them out on the picture and see how they work together. As well as using the Spray tool, try using the Brush. In *Canvas*, the Brush tool can be sized from a single pixel to 40 pixels square!

METHODS 1: COLOURS

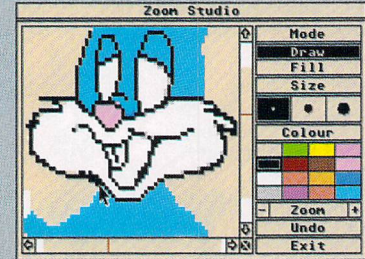
Select Colour from the main screen and the colour menu becomes available. All colours are displayed by their RGB value – that is, the quantity of red, green and blue used to create the colour. You can adjust these quantities by moving the horizontal bars in each of the columns. An easier way to select colour is to use the palette box arrows to scroll through the available colours. These are then displayed at the bottom of the screen. Select the colour using the mouse cursor and its RGB value is displayed. Write this value down, then use this colour in your own palette. Another handy colour function in *Canvas* is the Rep Colour mode, which you can access through the Brush tool. This function enables you to set a secondary colour which can be used with different drawing tools. Using the Spacebar you toggle between the two colours as you want.



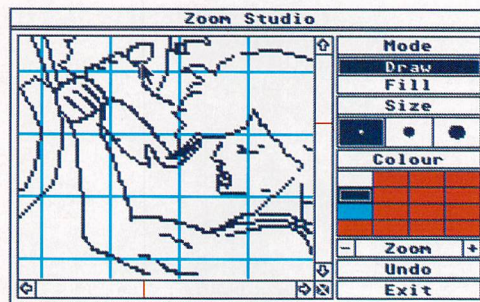
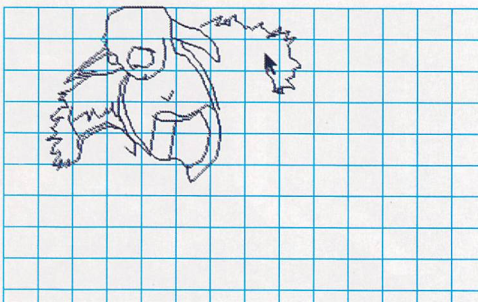
Now we're going to try a cartoon scene. Here the figures can be built up exactly as professional animators do it, from simplified shapes or masses of colour. You may have noticed that cartoon characters don't actually reflect any light or have defined areas of shade, so two-dimensional cartoon characters are ideal for the shape method. The colours need to be cheerful and bright, so keep your palette exciting.



1 In this case, we've used a light yellowish tan colour rather than white as the background colour. You still need to use black in the picture to pick out dark areas, so set this up as the foreground colour. White needs to be the first colour in the palette after you've selected a background. Also include two blues in your palette. Use these colours with the Ellipse tool to put down circles and shapes, starting with the head. Select white and return to the work screen, then draw more ellipses for the face, feet and other parts of the body. Then use the Brush tool to draw the arms.



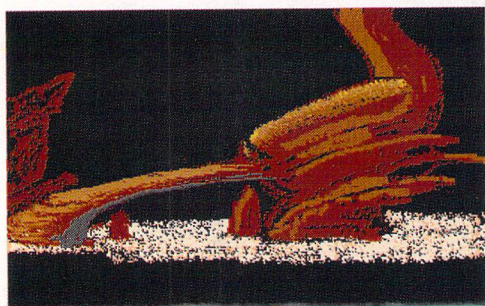
2 Since the rabbit is to have pink inner ears and needs red for its mouth, you need to add these colours to the palette. Remember to only add the colours as you require them. Using the Zoom function, add the detail, starting with the main features. Select a large Draw tool for the nose and apply the outline by hand, pixel by pixel, rather than using *Canvas*'s own Outline tool. This method enables you to tidy up the edges of the white and blue at the same time as outlining.



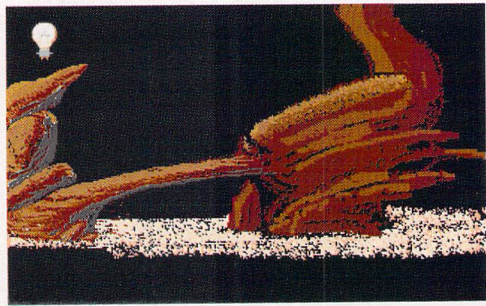
1 After tracing your picture onto a piece of tracing paper, place another piece of paper under it with a grid of 15mm x 15mm drawn on it. Set the palette background to 14/14/14 [7/7/7], foreground to 00/00/00 [0/0/0], and first colour to 00/10/12 [0/4/6] – light blue. Select this blue colour, then click on the Grid tool. A grid set to 23 x 21 is almost the correct scale for a true 15mm x 15mm pic. Now, still in the Grid tool, move to the work screen and click in the top left corner. Now move to the bottom right corner and click again to fix the Grid. Select K-Line with the colour black. Then, using the picture as a guide, draw in your construction lines.

2 When using any of *Canvas*'s tools, it's always a good idea to keep returning to the main screen. Then, if you have to <Undo> your work, you only lose what you added after your last visit to the work screen. It's better to draw directly on a Grid rather than use the Grid Overlay, because the grid stays on-screen in the Zoom studio. The Grid Overlay also slows down the screen update, causing the cursor to flash and stutter, which isn't very helpful. Use the Zoom function for the complicated parts of the drawing – it also helps to ensure that there are no gaps.

3 Now that the drawing has been transferred to your ST's screen, it's time to exchange the background and foreground colours so the background becomes black. You can do this using the slider bars in the Colour function. The background for this picture needs to be a bleak winter scene, so fill the background of the picture and the blue grid with a light grey. The girl warrior in the original picture was dark-skinned – almost Jamaican – so you need to try various colours for her skin tones. When you paint human skin tones, make sure you have at least three shades for highlighting and shading – more if your palette permits it.

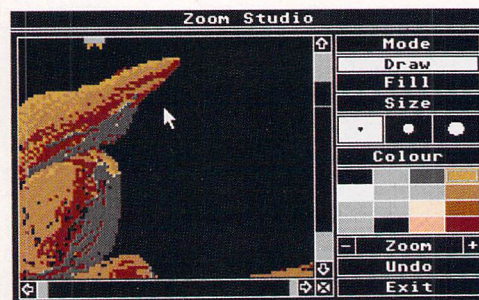


3 Once you've tried out the browns on the rocks using the Brush tool, return to the Spray tool and doodle in another rock. When we were putting together the picture shown here, we slipped and added an unwanted line straight across the two rocks. Instead of undoing it, we simply continued and turned it into a natural bridge. Mistakes can sometimes be advantageous. You can use the Draw tool to "scribble" two shades of brown onto the bridge and create new rock formations. To assimilate a layered rock formation, you need to make long arcing movements of the Draw cursor as fast as you can manage. Notice the shadow under the bridge – can you work out which direction the light is coming from?

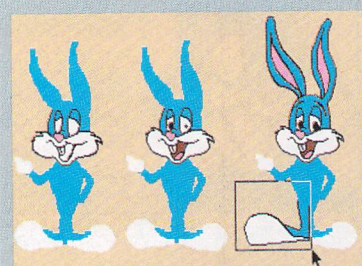


4 Add a temporary light bulb to give you a reminder of where the light is coming from as you shade. Lighting and shade give life to a picture – but can be the kiss of death if it's done badly. If you're unsure how to light objects, hold an item of similar material up to a table lamp and watch how the light falls. But remember: the light effects on a 50p piece are different from those on a swatch of fabric, or on a rock!

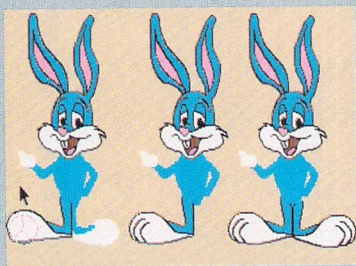
Add more colours to the palette. You can use a dark grey and a very dark blue – almost black: 00/00/01 [0/0/1] – for shading. To add highlights you can create a gold/light brown – 10/06/02 [5/3/1] – and add highlights using the Draw tool.



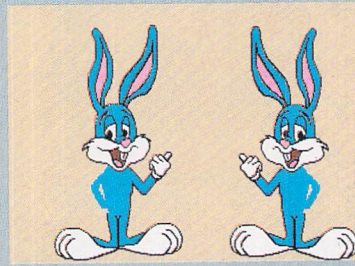
5 Canvas has an excellent Zoom function enabling you to edit single pixels and still use the Fill capabilities. Use this tool to tidy your drawing up from time to time and for precision drawing. At this stage, we used it to adjust highlights at the edge of the rocks. Be careful not to draw with this tool without returning to the work screen frequently – drawing in this magnification is sometimes very deceptive. When you <Undo> work created using Canvas's Zoom tool, you undo everything you've done back to when you first entered the Zoom studio.



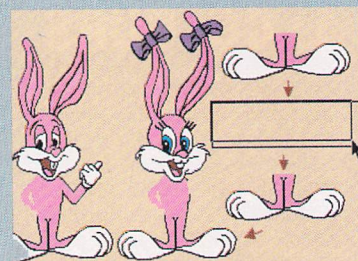
3 After you've completed the outline of the face, the next important feature of any drawing containing people or animals is the eyes. Select the Zoom function, then select the middle-sized Draw tool and fix the centres of the eyes. If you don't like the result use <Undo>. For larger objects like the feet, use the Outline tool: select Block, then select Outline – this takes you to Rep colour. Select the colour you wish to be outlined in the Rep colour palette. Next, select the colour you wish to use as an outline from the main palette. On the work screen, drag a box around the object you want to outline.



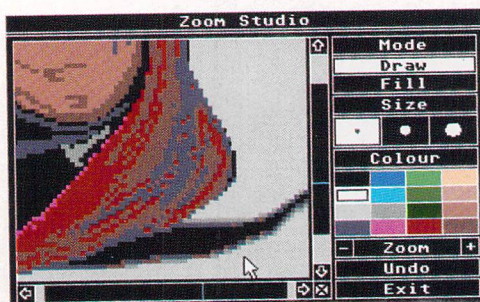
4 Use the Arc tool to position the toes. Select black from the palette, then go to the work screen and choose the size of the arc with the cursor, by clicking and then moving the cursor away from the centre just as you do with the Ellipse tool. A clock-like pointer appears. Move the cursor to the beginning of your Arc, then click once. A second pointer now appears. Again, move and fix with a click. Use the Block tool to copy the foot, then select X-Ray in the Options menu and select H-Flip (horizontal flip) in the Block tool. Move to the work screen and click into place.



5 Now you need to draw the arm correctly. Select the K-line tool and a bigger line size using the Size option, then use K-Line to map the arm. Now go into the Zoom studio and add the hand. This method of drawing subjects unclothed is useful because you can adapt, clothe, shrink your characters and so on at a later date for use in other pictures. Because we've created our palette as we go along, the rabbit only needed nine colours, so he could easily be incorporated into another picture palette. The last stage of this step is to create a female rabbit. Use the Block/H-Flip command in Canvas to establish the basic structure of your second rabbit.



6 The male rabbit frame is used to create our female rabbit. First, the body can be made smaller using Cut and Paste. Make the legs smaller using Cut and Resize. The rabbit's colour has to be changed. We could use the Fill tool, but this tends to leave stray pixels still unfilled. Instead, use the Colour Swap function. Select Block, select the Swap option – this moves us to the Rep Colour palette. Choose blue as the colour of the rabbit, then select pink from the main screen palette. Now draw a box around the rabbit and click. Hey presto – a pink rabbit!



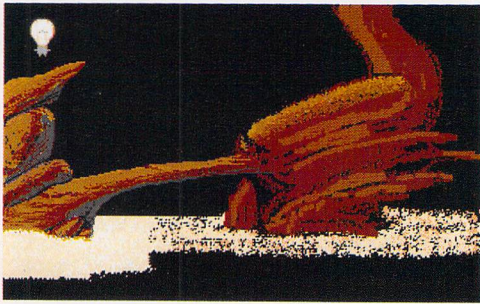
4 The secret of working with a restricted palette is to try existing colours within your palette before adding another. Here we've used the brown of the girl's skin as shading for her red cloak. The pink used to highlight the cloak is also to be used for the orc's bloodshot eyes. When two very different colours appear next to each other, they add a "jagged edge" outline to your drawing. The answer is to use a colour halfway between the two to give a gradual tonal difference and soften the contrast. Notice how a darker grey and dark brown have been used to give this effect to the black and light grey. This effect is called anti-aliasing.



5 As with the Mountain picture, firmly fix the direction of light in your mind. In this picture, the majority of the light is reflected from the snow in the bottom left. Go into the Zoom function and ensure your outline has no gaps in it before you fill it with a colour. Both the orc's gauntlet and the warrior's pants are chain mail. To achieve this effect, use the Pattern Fill tool. You need to extend the palette and test out the colours on-screen as you progress. Work on the highlights on the warrior's pants and vest using the K-Line tool. Now go into the Zoom studio to touch up your highlights and add the definition to the orc's eyes.



6 Light reflects from different objects in very different ways – the sharp edge of the axe, for instance, would appear almost white surrounded by a grey/blue. Always create highlights a lighter shade than the main colour of the object. Rather than create multiple shades of grey/blues, you can use the chequered effect here to create an "in between" shade using Canvas's Sprite tool. The same effect could be carried out using the define brush, both in Canvas and other art packages. Indeed, some art packages have this chequered effect as a pre-defined brush already.



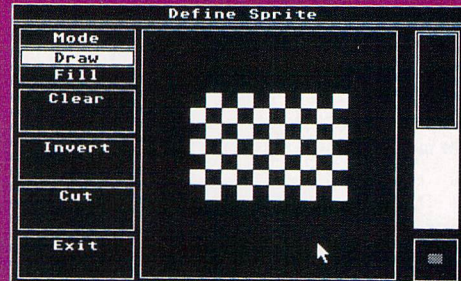
6 Use the Brush tool and select the sand colour 14/12/10 [7/6/5]. Now brush a large area next to the rocks. Select Spray and establish a secondary colour of sand and a current colour of white (see the Colour methods box on page 32) and return to the work screen. Use the white to lighten the sand. Use the K-Line tool and an almost black colour 00/00/01 [0/0/1] to add all the dark edges to the rocks. This helps define each separate rock. Using the Zoom function, touch up the stray pixels lurking on and around the finished rocks. Don't worry about sorting out the jagged edges until the background is in position.

METHODS 2: SPRITES AND MIRRORS

Canvas not only enables you to define custom brushes, but has a useful single colour Sprite tool as well. Select Sprite from the main screen – this displays the sprites available to you. If you want to define a sprite yourself, select a sprite to redesign and click on Define Sprite. Once you're in the designer, you can draw in either the background or foreground colour you chose. If you draw using the background colour, that work appears transpar-

ent in the final sprite on the work screen. When finished, select Exit to return to the main screen. You can now select your design just like the other available sprites.

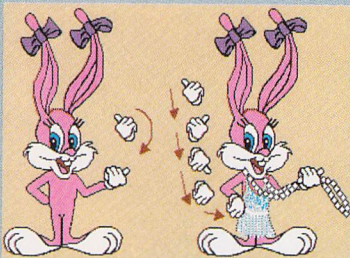
● The Mirror function available through the Options menu enables you to create two to four various images at the same time. This function affects all Draw and Paint tools including Spray, so when you've finished with it don't forget to turn it back to normal – the box with one dot in it.



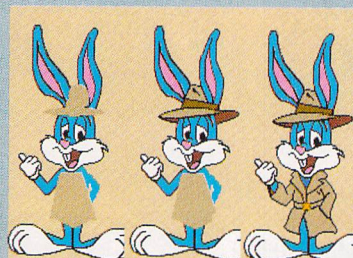
● You can create your own sprites in this box.



● The Mirror function – multiple images at once.



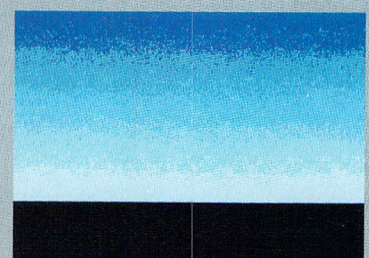
7 In the previous picture and this one you can see that the second rabbit's eyes, teeth, face and ears have been slightly modified in the Zoom studio to create a gentler effect. Because we've already created one hand for the female rabbit, we can use this for the male rabbit, using Canvas's Block tool. The picture on the right is just the male's hand H-Flipped, then V-Flipped, then cut off at the thumb. To create the other hand, use the Block tool's Spin function, then tidy it up in the Zoom studio. The dress is just lines of light blue and white drawn with K-Line. You can create the pearl necklace in Zoom using the mid-sized brush, then outline it with Block.



8 Construct the male rabbit's hat with the Ellipse tool and add detail with the Zoom function. This gives you greater control to avoid damaging the rabbit's face and ears. Draw a polygon as the basic shape for his trenchcoat. The K-Line tool provides enough construction lines to enable you to complete the remainder of the coat using the Zoom function. Since the subjects are cartoon characters, don't worry about jagged edges in your outline. However, you may want to smooth some of the lines by anti-aliasing – check out the "warriors" pictures below for more details.



9 Five slots in the palette still haven't been taken. You can use these for the background sky and put in a graduated tone fading from dark at the top to a lighter shade at the bottom. Because we've already decided on our horizon line, it's easy to divide the remaining area into five equal parts. Use Canvas's Grid function and set the width to maximum by clicking on the > key. Achieving the correct height is a case of trial and error, but by moving onto the work screen you can view your result. If you don't like it, you can return and reselect. Next select the Box tool and ensure that Fill Pat is a solid colour, then draw five boxes onto the work screen.



10 As you can see from the previous pic and this one, the colour graduation always looks better if the colours blend into one another. If this were a painting, we would use a dry brush while both colours were wet and smear them together. You can achieve this same effect using the Smear tool. Select Brush, and choose a medium brush size using the Size function. Now click on Smear and go to the work screen. Keep the mouse button held down and move the Brush across the "joining line" fairly slowly. The Smear tool is like the Spray tool in its effect, but uses all the colours under the brush.



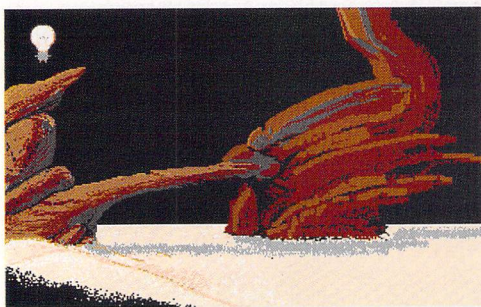
7 Draw the girl's arm using the same technique as in the Mountain picture – roughly position areas of colour, this time using the Draw and K-Line tools, then go to the Zoom studio to edit. Use the chequered effect to get the extra shades. Once the arms are complete, you can straighten up the sword using the K-Line tool. The hair requires a slight change to our highlighting guidelines – it should be dark blue, highlighted grey and shaded black. Rather than filling it black and highlighting blue, try spraying the hair grey, then painting in the blue, leaving the shaded areas black.



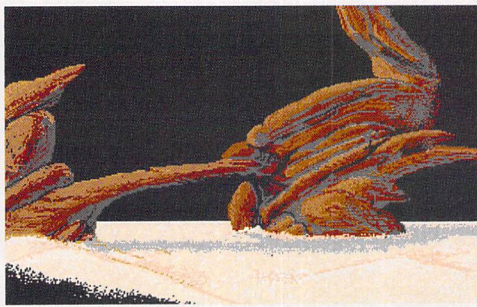
8 Use some sweeping wild moves to give the hair that wild look. Touch up the hair in the Zoom Studio. Although in closeup the face looks very complicated, it isn't. Just as you did with the arm, use the lighter brown to fix highlights and the darkest brown to fix shade. Add reflections of light using the lightest flesh tone. You can use the chequered effect again for the intermediary shades. The mouth is a combination of red, brown and pink. Try not to make her look as if she's wearing lipstick to the battlefield! Eyes are the face's strongest point – use dark colours above and light colours below.



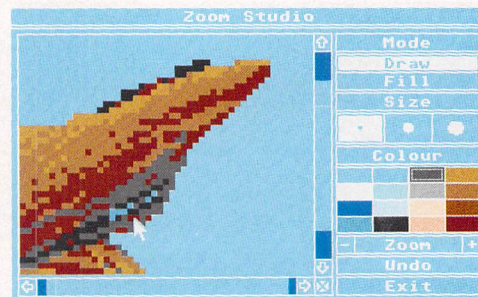
9 This picture shows the face and hair complete. Keep moving out of Zoom to get a look at the full canvas. Using previously described techniques, complete the scabbard and sword. Then correct the orc's mouth shape and make a start on his body, using the same chequered effect you used to shade the axe. The restrictions of your ST's palette can be overcome by careful use of this colour merge/chequered effect. Shade the orc's body in the same way as the girl warrior – the fur clothing is just like hair! Try it!



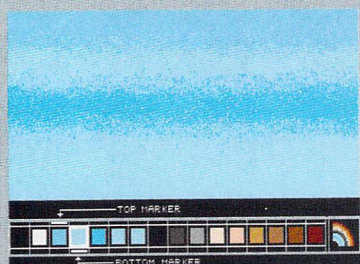
7 Now the background is finished, your complete palette should now have been used and you'll have to make do with the colours available. Continue with the Brush tool to complete the sand area, then use the Spray tool to add highlights to the sand dunes. Use the K-Line tool to define the sand dunes with the same gold as the rock highlights. Straighten the horizon using white with the K-Line tool. Using a light grey, add a shadow, still taking reference from the light direction. Add rough shading to the rocks on the left using the Brush tool and a dark grey.



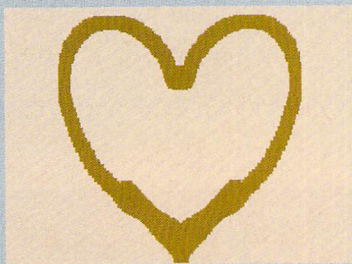
8 As you did with the first cluster of rocks, select Draw and scribble a dark brown over the rocks. If you can't get the formation correct, go down to your local library and look through the *National Geographic* magazine for inspiration. Or while you're down there, just take a break and have a read...



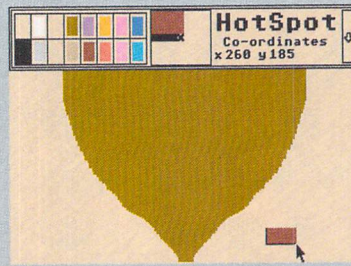
9 Before we join the mountains to the background picture, there's one more "trick" to carry out. Because the background and the construction colour are both dark, it's difficult to see if you "missed" any gaps while drawing. To enable you to see these, you have to lighten the background colour. Because we used five shades of blue as a background, we select the middle blue in our palette and in the Colour function. Note its RGB value. Select the background colour, return to the colour sliders and adjust them to this setting. Use the Zoom studio to fill in the bits showing through, and tidy up the edges.



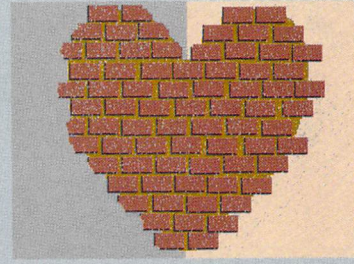
11 Unfortunately, Canvas doesn't calculate colour shades automatically like some art programs. Instead, it has a Shift Pal function. To make the darkest blue closer to the next blue, use the white markers just above the palette to define the range. For example, put the top marker on the darkest blue and the bottom marker on the next blue. Select the lighter of the two blues as if you were selecting a colour. Now, in the Colour function, click on Shift Pal. This shifts the dark (top) blue closer to light (bottom) colour so you get a lighter blue.



12 With this type of subject, you can construct the individual pieces of the picture separately and then cut and paste them all together. To construct the background, use the tools in Canvas. Clear the screen using the <Esc> key, select Brush at a "two clicks" size. Now select Options and choose the Mirror function with the two dots on a die (see the methods panel on page 35). Select brown from the palette and, starting near the top of the work screen, draw half a heart. When you've finished, make sure you return to the Options menu and switch back to one dot.



13 Go to the main screen and select Fill. Return to the work screen and fill the heart with the same brown. Now select Zoom and then construct an oblong brick shape. Add a black outline to this by hand only on the bottom and right edges to give the impression of shade. To enable you to accurately cut an object, Canvas has a magnification mode that operates as you work. To access this mode, select Options and Hotspot. Now select the Block tool and choose Copy. You can now use the Hotspot function to Copy your brick into the paste buffer. Click with the left mouse in the top left of the brick, move down to the bottom right and click again. Your copying is now complete.



14 Turn the Hotspot off and select the Block tool. Now select the Brush function in the Block tool. Your copy of the brick has now become a brush, so move to the work screen and paint a brick into position with a left mouse click. You're trying to achieve the effect of an old wall, so don't worry about aligning the bricks. When the bricks have been laid, select a dark grey and the Spray tool. With quick long strokes, spray over the wall area to "age" the wall. If you spray over the background, don't try to tidy up the over-spray by hand. Instead, fill the area with the same grey, then fill it with the background colour.



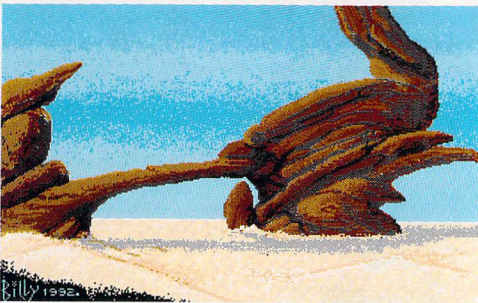
10 We have started to shade out the background into the eventual snowstorm. You can't paste the picture onto a background as in the other sequences, because in this case we have used the background colour black as an outline colour as well. The problem with this is how it's affected by the Block tool options. If you cut and pasted parts of the drawing in X-Ray mode, you'd get the under picture showing through the block you've pasted wherever you've used black in it. If instead you set the Block tool to Replace when you pasted, you'd get a large black block around the pasted block. Canvas lacks a "lasso" tool to enable you to cut and paste an object without any of the background, so a different technique is needed.



11 The previous picture showed the complete orc's face. This Zoom picture shows the face in close-up and the use of the chequered effect for shading. You can also see the detail in the fur - this is similar to the method used for the hair. To get this effect, red was sprayed onto brown, then the Draw tool was used with black and dark blue to add the shadow. A lot of time was spent getting the eyes correct in the Zoom studio to achieve a "penetrating" look.



12 With the body completed, try an arm bracelet for the orc - not to make him pretty, but to help emphasise the direction of the light. Have you noticed the purple trousers? They're actually blue chequered pixels on a red/brown background. The trees are a combination of the Spray and Draw tools, with the light grey and white selected as the Rep Colour. Because you can't cut and paste with this picture (see step 10), you need to be careful not to draw or paint over the main characters.



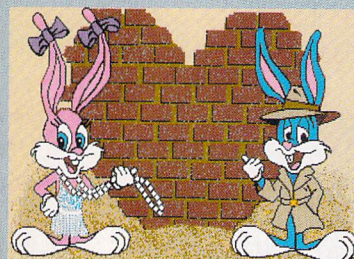
10 Now all that remains to do is to join the picture of the mountain to its background. Select the Block tool and copy the mountains and sand into the copy buffer. You now need to load in the previously completed background onto another screen and paste this picture over the top. For more details, check out the text dealing with the cartoon heart in the sequence just below. Now that the picture is complete, you can see why we've taken the trouble to keep the colour palette so neat and all the colours grouped together. Using the Shift Pal function, change the blues to a darker tone and then adjust the browns. Finally, add some stars...



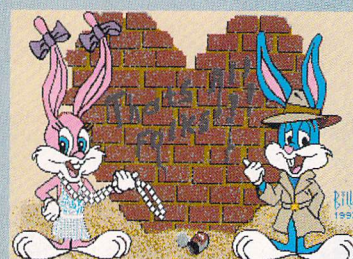
11 The result: a daytime scene transformed into a dramatic night time scene with a simple palette shift.



15 Once you've saved your wall, it's time to create the remainder of the background and have some fun with the Spray tool. Clear the screen and select Spray. Now experiment with Flow and Size to create a sand effect base to stand your wall on. Load the wall pic into another screen, select Options and click on the > arrow in the Screen box. Don't worry about the colours for now. Load your wall picture back in and select the Block tool. Select Copy and copy the wall picture into the paste buffer. Go to the Options function, return to screen 000 and select X-Ray. Paste the wall on top of the sand base.



16 With both rabbits and the background complete, all you have to do is copy and paste them together, just as you did for the wall background and the Mountain picture above. Copy the rabbits one by one onto the background wall in X-Ray mode. Because of the available wall space, any message you like can be displayed. Go to the Zoom studio to take out the sandy background between the rabbits' arms and elsewhere because this looks cluttered with colour. Add a message to the wall and a few bits...



17 ...like the empty can and, of course, a signature. Move over, Roger Rabbit!

EVEN BETTER!

The version of *Canvas* on this issue's Cover Disk is the complete package, but with a few enhancements and bug fixes – it now saves in more formats, including uncompressed *Canvas* format and "Full Pic" (so you can save 512-colour split palette pictures), and is fully configurable so you can save your preferred default settings. See page 14.



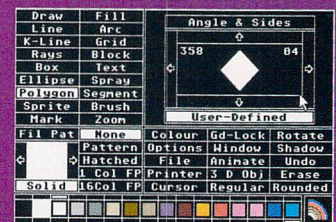
13 Use K-Line to draw the stones in white, then, using the Fill Pattern set to a chequered pattern and selecting dark grey, fill the defined area. The effect can be seen just under the orc's axe in this picture. The snow on the rocks can be easily created using the Draw tool freehand in a "scribbling" motion, not too unlike the doodle method of the Mountain picture. The secret here is to keep the background simple – or indeed, as here, in a simple tonal colour scheme. Continue adding the rocks and snow until the picture is full, but not complicated. Now using the Spray and a medium Flow rate...



14 ...add some snow to the background and finally, sign it. Think you could do as well? The starting picture is on the Cover Disk, along with the full *Canvas* package, and there's a £100 scanner on offer for the best do-it-yourself finishing job. See the panel on page 32 for details, and get busy!

METHODS 3: POLYGONS

The Polygon tool is used here to create the shape of the rabbit's trench coat – not very ambitious, but it demonstrates the possibilities of this tool. Select Polygon, then select User Defined or you can only draw a diamond shape. The arrows on the left and right change the angle of the polygon and are not used in the User Defined mode. The top and bottom arrows define the number of sides the polygon is to have. In our example, we need five sides. On the work screen, click in the top left under the male rabbit's chin. Now move the mouse to the next position and click. Move to the next and so on until five sides have been drawn. To stop construction, click the right mouse until the "rubber band" effect is no longer visible on the screen.



● Define your own polygon!

SAVE IT!

Although *Canvas* can load and save in many formats, it does not add the file-name extension to your Save. So, if you save your work as GREAT.NEO be sure to type in the .NEO bit.

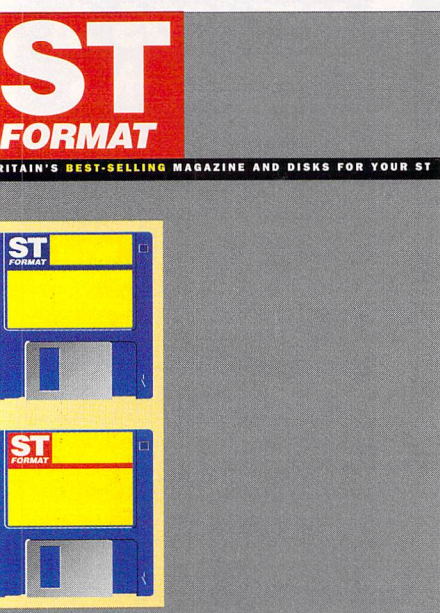


● The Load screen in *Canvas*.

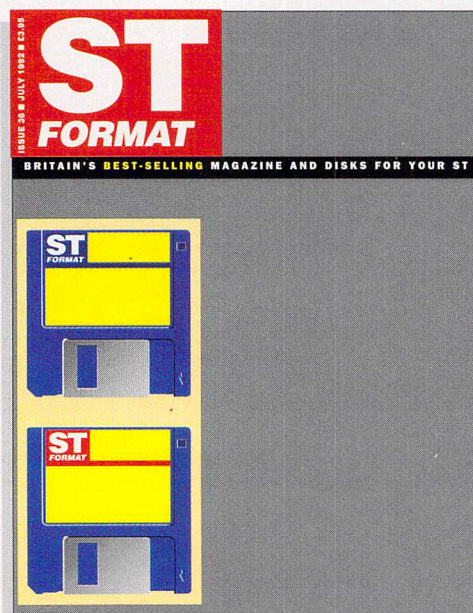
TRICKY FILLS

A quick tip that may be of help: it's possible to get more than one design from each fill pattern. If you create a 16-colour fill pattern using all 16 colours in the palette, and then select a range of colours on the main selector, only those colours are used in the fill pattern. So if you design your fill pattern properly, say splitting it into several areas, you can effectively get two or three patterns from one definition. If you use fill patterns a lot (God knows why, but you might), this could be useful.

Q. What have these got in common?



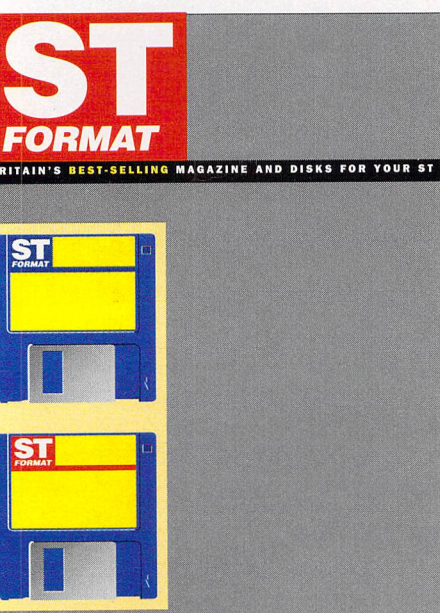
Issue 35:
OUT THURSDAY 14 MAY



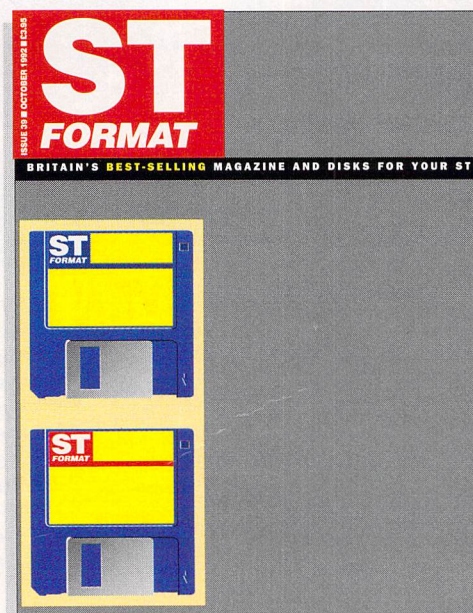
Issue 36:
OUT THURSDAY 11 JUNE



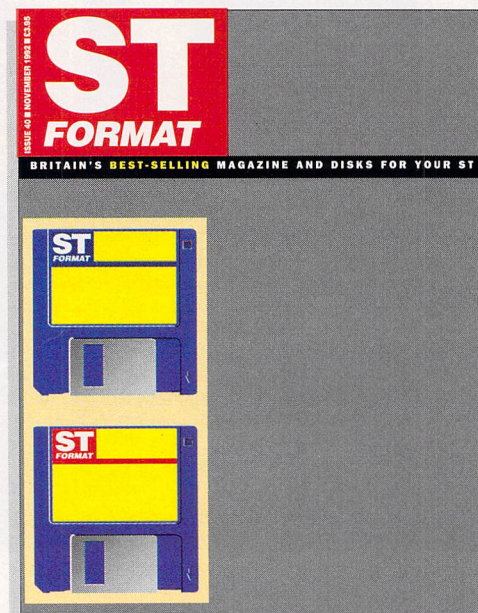
Issue 37:
OUT THURSDAY 9 JULY



Issue 38:
OUT THURSDAY 13 AUGUST



Issue 39:
OUT THURSDAY 10 SEPTEMBER



Issue 40:
OUT THURSDAY 8 OCTOBER

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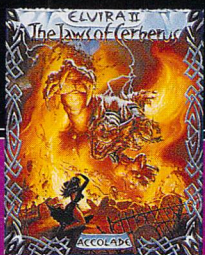
*Elvira II
The Jaws of Cerberus*

"THE EARTH OPENED. ONE BY ONE THE MOST HIDEOUS MONSTERS

OF GOTHIC HORROR
CRAWLED THROUGH THE PORTAL.
THE NIGHTMARE HAD BEGUN!"

PRESENTING ELVIRA II: THE JAWS

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A FANTASY
QUEST OF EPIC
PROPORTIONS.



AN EVIL
FORCE HAS PENE-
TRATED OUR UNIVERSE
AND ABDUCTED ELVIRA
HERSELF. YOUR TASK?
FIND AND RESCUE
ELVIRA INSIDE THREE
CAVERNOUS MOVIE
SETS—A GRAVEYARD,
HAUNTED HOUSE AND
CATACOMBS—THEN
FIGHT A FINAL CATA-
CLYSMIC BATTLE WITH
A NETHERWORLD EN-
TITY OF AWESOME
FURY. ♦ EXPLORE
THREE HUGE AND HOR-
RIFYING WORLDS WITH
NEARLY 4000 LOCA-
TIONS—FIVE TIMES
LARGER THAN THE
ORIGINAL ELVIRA

♦ OVER 120 HOURS OF SUSPENSE-INTENSE GAMEPLAY ♦ MORE THAN 700
DEADLY WEAPONS, SCROLLS AND OTHER TOOLS OF THE TRADE ♦ FULLY ANI-
MATED ENCOUNTERS WITH HUNDREDS OF FORMIDABLE NEW OPPONENTS ♦
NEW ON-SCREEN SPELL BOOK GENERATOR ♦ NEW ON-SCREEN HIT-POINT
ALLOCATION SYSTEM ♦ NEW ON-SCREEN 360-DEGREE ENEMY DETECTOR & TRACKER
♦ THE VGA GRAPHICS? STUNNING. THE SOUNDTRACK? HAUNTING. AND 100% "POINT
& CLICK" CONTROL MAKES IT SO EASY TO PLAY IT'S FRIGHTENING. THE BOTTOM
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Public Sector

Chris "Chris" Lloyd and Clive "Clive" Parker do a bit of Public Domain reviewing in between assignments posing as the Persuaders. Cars not included but enough software for under a fiver to keep you going for months

ART AND MUSIC

CRACK ART

Goodmans PDL - Disk GD 1524



● **Crack Art** gets its name from its incredible ability to crack into programs and nick their graphics – but that's just the beginning. Underneath the smooth and silky exterior lies a very smooth program – essential for all ST pixel manipulators.

There are plenty of art programs knocking about in the Public Domain, but most are – er, not exactly stunning. Until recently, one of the best was the venerable *Neochrome* from Atari. *Crack Art* is the latest in a long line and knocks the competition into a cocked hat. It is simply the most powerful arty job this side of *Deluxe*

Paint. Probably. The interface is the standard point-at-the-icon-and-click, double-click and up pops a box to adjust the settings. All the usual tools are there, as well as some more unusual ones like splines – which are for drawing smooth curves between set points. A lot of work has gone into the interface – everything feels polished: there's even a shadow on the mouse pointer. Blocks can be wrapped around tubes or squished in all sorts of juicy ways and there's a mass of lovely effects, too. There are multiple work screens which you can animate through. The zoom is adjustable and fast. In fact, it's all fast – even the most complex stuff.

Crack Art only works in low resolution and needs 1MByte of breathing space. You can load in 28 different picture formats, including *Degas Elite* screens in all resolutions, then it does a bit of fancy dithering to turn them into low resolution screens. It does a similar trick with *Spectrum 512* pictures, converting them to 16 colour ones. *Crack Art* is, surprise surprise, German and has a very limited English manual. The icons



● The range of special effects is, to say the least, impressive – anti-aliasing, diffusion, erosion, sine wave wobbliness, zig-zagging and a full supporting cast. *Crack Art* rivals the big league art programs and leaves lesser ones floundering in its wake.

are all in English, so it's up to you to experiment with all the functions. There's the inevitable bug or two, but nothing serious. If you use your ST to throw pixels around, then do yourself a favour and get this amazing program.

STF Rating – 94%

GAMES

SNOWBALL FIGHT

Floppyshop ST - Disk GAM 228



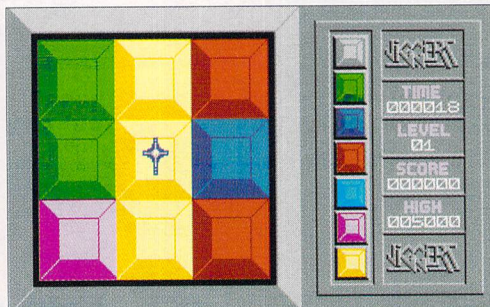
● A heavyweight close range shoot-out from *Snowball Fight*. With basic graphics and a simple concept, *Snowball Fight* looks ordinary but plays a mean game. Invite your friends round for a severe pelting and gloat mercilessly as their character wails "Mom!" and runs away. Ha!

Snowball Fight is a two-player throwing-things-at-each-other job. Using the joystick, you pick up some snow and adjust the throwing angle before letting loose. The bigger the snowball, the more damage it does and the shorter distance you can chuck it. Each hit brings a sampled complaint from your opponent and a reduction of their health bar. Wittle the bar down to nothing and the cowardly custard runs home to mummy. There's nothing clever or convoluted at all – it's just damn good fun. Luvverly jubbly.

STF Rating – 84%

JIGGERS

Riverdene PDL - Disk 977



● A well presented and programmed puzzle-'em-up, *Jiggers* is a perfect recipe for the argh syndrome. You know the one – make a tentative move and then go...

Jiggers is an infuriating and near-impossible puzzle game played against the clock. The task looks simple – just rearrange the colours in a grid of blocks. Clicking on one block changes its colour from a series shown on the right of the screen – use the left button and it goes down by one, or use the right and it goes up. You just have to turn them all into the same colour. One slight snag – all the blocks round the one you're altering are changed, too – cue brain ache. It's a challenge you accept and struggle with until you can do it, or give up within seconds. You're rewarded when you get your head round the logic involved and complete a screen. Good, simple challenging puzzle.

STF Rating – 79%

ATAX

Floppyshop ST - Disk GAM 232



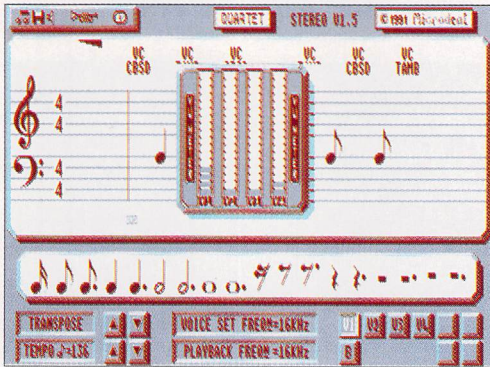
● *Atax* has the usual lone hero-in-small-fighter-saving-mankind plot drive. Sprites are small and fast and it's no pushover reaching the next terrain. Collect that power-up floating down the middle of the screen for an extra gun drone. Keep firing, Smithers.

A half-way decent shoot-'em-up, *Atax* has your tiny fighter scrolling smoothly up a variety of terrains blasting the hell out of the locals. It's written in assembler and everything moves smoothly and quickly – a tad too quickly to make it easy. Sensitive controls send you smashing into your intended targets time and time again. Along the way are power-ups and, at the end of each level, a – gasp of amazement – big bad sprite that takes loads of shots to kill. A pretty good bash at a classic formula for a game of mindless shooting.

STF Rating – 73%

QUARTET MUSIC 8

Riverdene PDL - Disk 970



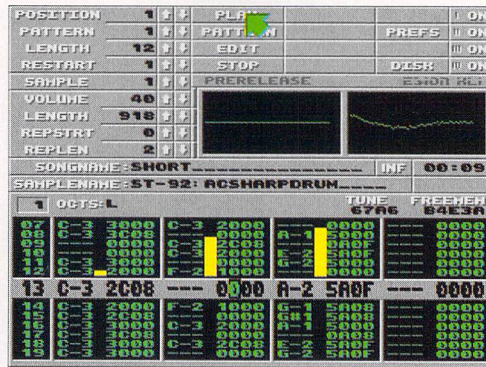
● Two house numbers to whack into *Quartet*, through your stereo and then through the walls. Aficionados of the demo scene are likely to recognise them from the recent *Red Sector Megademo* and *Hardcore Dancefloor* demos. As usual with *Quartet*, the replay is at an excellent 16MHz and, if you have the latest version, it's in stereo.

Two serious *Quartet* numbers – crunchy on the outside with soft centres. It's the usual techno house stuff, but very nicely sewn together. Both have the relevant sets of wacky samples. You need *Quartet* to load them into – then listen and jiggle, or do your own remixes. Alternatively, just borrow the samples – after all, they borrowed them in the first place. There's lots of *Quartet* stuff about, mostly beepy and synth. These two beepy synth ones stand out as being particularly beepy and synthy. Triumphant tracks, indeed.

STF Rating – 77%

ESION XLI TRACKER

Caledonia PDL - Disk STE 33



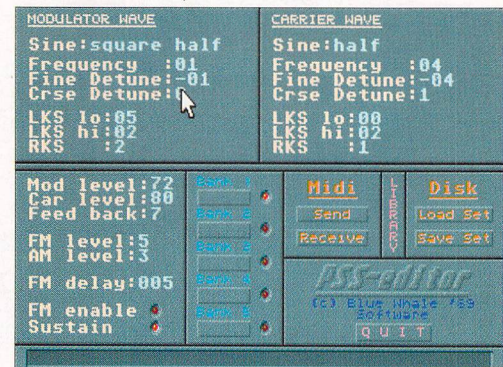
● You either love or hate *The ESION Tracker's* system of using numbers to represent music. Notes are entered in step-time from the keyboard, so you don't need to be an expert ivory-tickler – musical ability helps a bit, though.

Here we go again – yet another tracker program for producing those sample sequenced tunes beloved by demos and intro screens everywhere. *The ESION Tracker* is for the STE only and pumps out two channels of sound from each speaker. There's a demo program with an uninspiring set of numbers. The tracker section initially looks daunting with a mass of icons. You need to have a good read of the rather limited manual before charging in and producing your very own cacophony. You can add portamento and vibrato to notes and have control over the whizzo STE features like adjusting the bass and treble. If you register your copy with the author, you're promised the latest version, detailed documentation, replay routines and more samples – well worth it if you start getting seriously funky.

STF Rating – 77%

PSS UTILITIES

Warpzone PDL - Disk MIDI 1



● If you have a Yamaha PSS synth and an ST wired together, the PSS patch editor and librarian are just too useful to be without. Voices are dumped from the synth and stored in libraries – you're never going to lose that special crunchy sound again.

A suite of programs dealing with the Yamaha PSS series of synths, including two – the patch editor and librarian programs for the 480, 680 and 690 keyboards – that are so useful you'll wonder how you ever lived without them. You can mix up new wacky sounds on your musical friend and save them out to disk. There's also a drum machine with 116 drum patterns, a mass of *Music Studio* songs with a player and a few other goodies. Save yourself a wedge on the commercial numbers and start here.

STF Rating – 76%

INTERNATIONAL CRICKET

Riverdene PDL - Disk 976



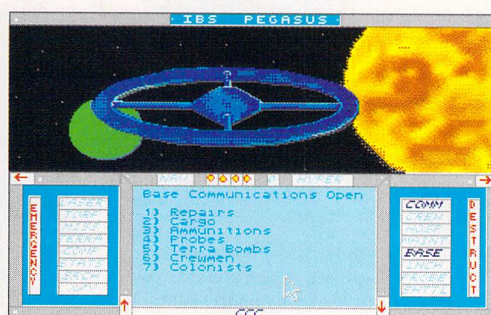
● The only view of the field you get in *International Cricket* – from a tower block next to the field. Choose your team and give those Aussies another sound thrashing. Playable enough if rather uninspiring – bit like real cricket, actually.

What a strange game cricket is – hours of doing nothing much loitering around in fields interspersed with moments of sheer terror as a rock hard ball hurtles straight at you. *International Cricket* recreates it with a complicated scoring system and men in white coats. There are plenty of options to play with – teams to pick, fielders to place and tactics to try. The sound is dire and the graphics basic – the cricketers are tiny and you need to peer closely at the screen while the tiny red dot goes back and forth. Like real cricket, everything is pretty slow. All in all, this is pretty tame.

STF Rating – 71%

PEGASUS

Goodmans PDL - Disk GD 1520



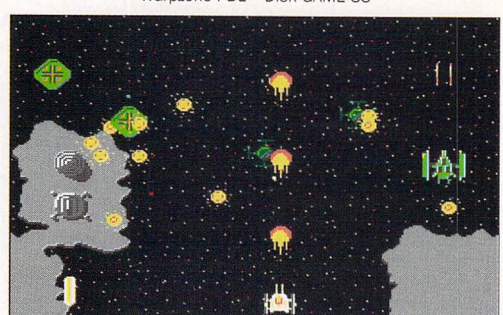
● *Pegasus* is an in-depth space strategy game – just you, a huge spaceship and your plastic pal who's fun to be with, against the alien hordes of Thragg. Don't get too excited, though, it soon turns into a pretty drab management effort.

"Right, Captain, the fate of humanity rests on your shoulders. In the face of opposition from the enemy's horribly bewepanned death flotilla, you must colonise the planets." There's a heavy management emphasis in *Pegasus* – you juggle food, weapons, and raw materials between colonies. First, you get kitted up, get out and find some planets to transform into useable ones. It's not easy to get into and a good look at the manual on the disk saves you from some embarrassing annihilations. The graphics are functional, though some samples spice it all up. Frankly, your pulse won't race.

STF Rating – 70%

RUTHLESS

Warpzone PDL - Disk GAME 33



● *Ruthless* is the same old stuff – another hackneyed vertical scroller. You either love it or hate all the dodging and blasting. There's also a demo of *Ruthless 2* – yours for two quid.

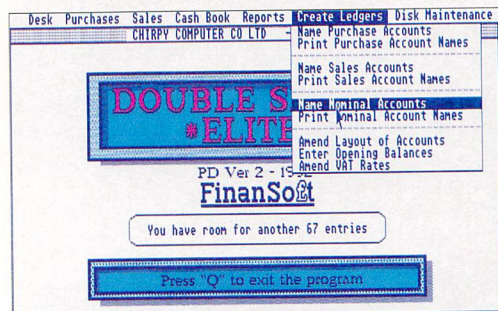
As soon as you boot-up with this, you know it's one of those *Shoot-Em-Up Construction Kit* ones. One lone spaceship flies into wave after wave of malignant cannon fodder yet again. As usual, the scrolling and sprites are all a little jerky and the collision detection suspect. It's pretty hard at first, too – waves of frantically firing things whizz around. The graphics are dull – most of the ships are dark green and distinctly indistinct. We still await a game that stretches *SEUCK* to its limits.

STF Rating – 63%

UTILITIES

DOUBLE SENTRY ACCOUNTS

Caledonia PDL - Disk AU 158



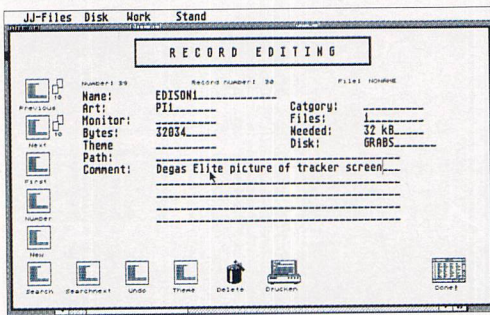
● **Double Sentry Accounts** is a clumsily named – but well executed – accounts package with more features that you can shake a long thin bit of wood at.

Probably the best Public Domain accounts program, *Double Sentry Accounts*, has been upgraded to v2. The PD version has a few limitations: no VAT returns, automatic standing orders or statements, and you're limited to 100 data items. Other than that, it's the biz. All the functions are accessible by keyboard shortcuts or menus. The data is held in memory, so access is lightning quick. There are sales accounts, nominal accounts, purchase accounts, ledgers and all that accounting wibble – profit and loss reports are just a question of selecting a function. There's support for printers – including bubblejets and deskjets – for producing professional reports. Now there's no real excuse for not starting up that business, is there? Any one want to buy a vole?

STF Rating – 86%

JJ FILES

Caledonia PDL - Disk AU 143



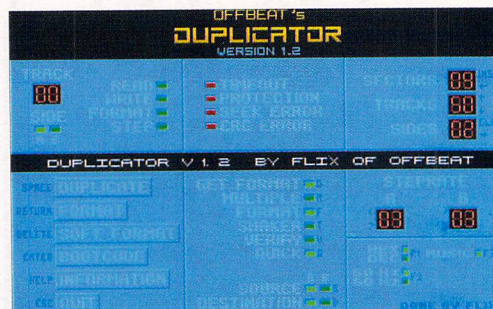
● **JJ Files** is an all-singing all-dancing disk cataloguer. Each record can be edited and can store all sorts of info and comments – there's also full printer support. Well done, that man.

If you leave a disk cataloguer program alone in a dark room, and come back later, there'll be two of them. *JJ Files* stands out from the rest as being really rather good. There's a lovely GEM Desktop look with these pretty little icons – and everything else as well. Pick a drive and read in the directory, then add it to your database. You can set what information you want to be added – all the files, folders or whatever. There's a nifty search feature, too. Like a lot of good serious Public Domain software, it's German and only runs in high resolution. It's used by a Norwegian PD library. And what better recommendation could you possibly want?

STF Rating – 85%

THE DUPLICATOR

Riverdene PDL - Disk 971



● **The Duplicator** does just that – creates multiple copies of any unprotected disk in no time. Everything is keyboard controlled and simple enough. The first key to press is F3 to stop something the programmer has called "music." Then, in with the disk to be copied and press the Spacebar.

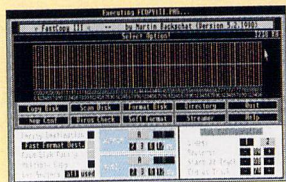
As the name suggests, *The Duplicator* backs up disks. It makes a shadow copy – copying tracks and sectors rather than individual files – and can deal with just about any format you care to throw at it. Everything is fairly straightforward, although who really needs a track selector with an option to view in hex? You can opt for a soft format, which just deletes all the files on a disk, rather than doing a full format. There's also the option to add an anti-virus boot sector and make multiple copies of a disk. It's a painless and easy way to back up disks and particularly handy with demos, which come in all sorts of flavours.

STF Rating – 77%

ST FORMAT'S TOP TEN PD AND SHAREWARE UTILITIES – HOW

FASTCOPY 3

The ST Club - Disk DMG.18



● The apex of the PD disk formatting world, *Fastcopy 3*. It formats disks, copies disks and smiles quietly to itself on Tuesdays at teatime.

Everyone needs a good disk formatter and backup utility and there's nothing better than *Fastcopy 3* in the PD world. A wide variety of options includes virus checking, hard drive backup and easily configurable format and copy options. Other useful utilities on this disk are *Copyfix* which retains date stamps on file copies, *GFA Colour* and *Mono emulators*, *Diary 1.5* a Desk Accessory word processor, and a reset proof RAMdisk.

STF Rating 89%

XCONTROL

South West Software Library
- Disk 1677

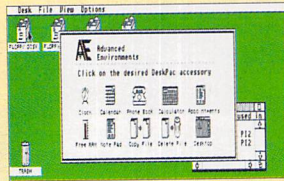
● The marvelous, wonderful, great and absolutely not bad at all *Xcontrol* Panel from Atari. Stick this in your machine and you need never feel lonely again.

This is Atari's replacement Control Panel which was designed for the TT and Mega STE machines. The big difference between *Xcontrol* and the old Control Panel is the ability to load and unload specially written Desk Accessories called Control Panel Extensions (CPXs). These can be the same type of utility that would appear as an Accessory in the Desk Menu. There are new CPXs appearing all the time in the Public Domain and from commercial software houses. Atari's new FSM GDOS uses CPXs as well as the usual Accessories.

STF Rating – 88%

DESKPAC

The ST Club - Disk DES.03



● The main option screen in *DeskPac*, which enables you to use the many useful features of this utility.

This is an integrated multi-purpose Desk Accessory incorporating a Desktop clock, calendar, phone book, calculator, appointment book and file copying utilities. All these utilities can be accessed from within a GEM program. One of the best multiple Accessories around.

STF Rating – 88%

SUPERBOOT 7

Seven Disk - Disk ST 540

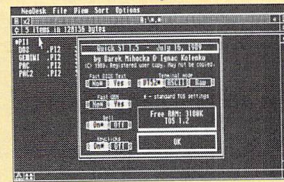


● This is the main selection screen from *Superboot 7*. Simply choose the Accessories and Auto programs you want, stick them in a bag and take them home.

Superboot is a vital utility for ST owners with hard drive systems and very useful for floppy based systems. *Superboot* is a sophisticated Accessory and AUTO program chooser. A screen listing of all Accessories and AUTO programs in the boot drive is displayed with different Desktop INF and GDOS setups. You select or deselect the item using the cursor keys and Spacebar. Once you have chosen the programs, press the <Esc> key and away you go. Also included are *Megamatic*, a similar boot-up utility, and *MonSTER* which fools your ST into thinking the screen is larger than it is.

STF Rating – 85%

QUICK ST

Goodmans PDL -
Disk GSD6 Quick Disk

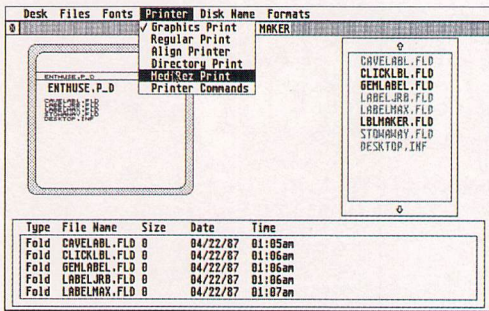
● The world famous *QuickST* "software blitter" speeds up your word processing so much you can hardly keep up.

This acts as a "software blitter" to increase the speed of the ST's operating system. It achieves this by intercepting the ST's built in C code and substituting its own machine code routines, speeding up some screen functions by 50% or more. Also on this disk are the rest of the Shareware Quick utilities – *Qfind*, a file finder, *Qlabel*, a label printer, *Qview*, a document reader and *Qindex*, a utility which measures the performance of your machine.

STF Rating 84%

LABEL MAKERS

Merton PD - Disk ME 99



● **Label Maker** is a quick and easy producer of neat disk labels. It's a full point-and-click effort just - er, point and click on the options you want and print on any Epson compatible printer.

One of the dead handy things you can do with your ST and a printer is to print attractive neat labels for your disks, mailshots and collections of Abba memorabilia. This disk brings together seven label programs of varying professionalism. All of them work with Epson printers and most are geared towards disk labels, reading a disk's directory and printing it out. The best of the bunch is *Label Maker* which has an easy GEM front end with all the options in menus. Just read in a directory, select which file names you want printed, add in a title, choose a typestyle and off you go. *GEM Label* does a similar job for mailshots, producing three sizes of labels. Again, it's all simple menus and a doddle to use. Now there is no excuse for those layers of hand-scribbled labels.

STF Rating - 73%

ZEST

South West Software Library
- Disk 1652



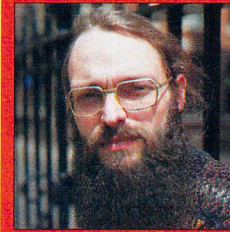
● Not quite a NeXT emulator, but *Zest* adds a lovely-looking interface. The four programs are simple, but functional. The address database is the best of the bunch - extremely simple and easy to use. If only all programs had such a crafted interface, we'd be up to our necks in crafted interfaces and then where on earth would we be, eh?

There is a machine called the NeXT, it's very sexy and very, very expensive. *Zest* recreates its Desktop environment in monochrome on your ST. Along the right-hand side are four icons that lead to a calendar, typewriter, database and a paint program. Each shares the same sculptured look and works well. The real point is to show that, with some effort and imagination, you can give your ST a whole new and sexy look. The full source code is there, so you can use the *Zest* interface in your own programs. Also on the disk are a fairly good calendar program, a ZIP archiver, a utility to set the fastload flag in file headers and a Double-Click utility to send a form feed to your printer. Quite a mixed bag.

STF Rating - 70%

THESE ARE A FEW OF MY FAVOURITE THINGS

We asked Paul Glover from the ST Club what his favourite programs were. And you know what? He told us, he just came right out and told us.



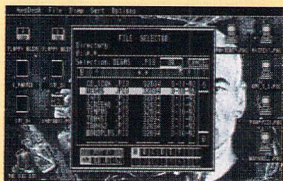
● If you meet this man at a seaside resort, just walk up to him and say "You are Paul Glover and I claim my £5.00." Then run away.

- 1 - Superboot 7 - UTI 156. The ultimate custom boot program - choose from accessories, AUTO programs, ASSIGN.SYS files and loads more.
- 2 - Llamatron - GAM 167. The best Public Domain game ever, most probably - frantic and noisy.
- 3 - Fastbase - UTI 182. Public Domain version of this brilliant Shareware database.
- 4 - Mouse Tricks - UTI 149. Teach your furry friend a few new tricks. Also includes a neat document reader.
- 5 - Fractal Chaos - GRA 136. Super-fast Mandelbrot generator for generating those super-fast Mandies.
- 6 - Vault - UTI 146. Friendly hard drive backup utility, handles wildcards and doesn't need loads of memory.
- 7 - Nethack - GAM 131. Classic dragon bashing and wizard frying stuff.
- 8 - Vanterm - COM 27. The comms program modem users swear by, and occasionally at.
- 9 - View GIFF - GRA 143. Super-duper picture file convertor - all sorts of formats catered for, including GIFF.
- 10 - Kozmic 2 - DRG 45. Hippy pattern generator - a new version of the demo from Cover Disk 32

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FSELECT 6 AND LGSELECT

Goodmans PDL
- Disk GD717



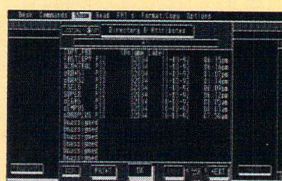
● **Fselect 6** fileselector. Click on a file once to highlight it and then click on the question mark "?" to change the file attributes. Don't click on the "P" unless you're desperate. Actually this outputs the current directory to the printer.

If you're bored of the GEM fileselector, you need the replacements on this disk. In *LGSelector* you can specify file extensions to search for and sort the files listed by different parameters. *Fselect 6* enables you to alter name, date and timestamps of a file, and display file size and date. You can print a disk directory and change the file attributes. The disk also has the STE-compatible *Mono Emulator v5* and *Headstart*.

STF Rating - 84%

PINHEAD 1.8

South West Software Library
- Disk 1530



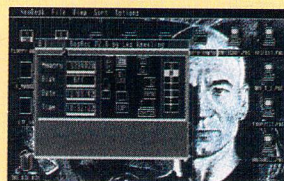
● As you can see, *Pinhead* enabled *KnifEST* to load much faster than it does under TOS.

Pinhead is one of those wonderful little Shareware utilities which, once you've shoved it into the AUTO folder, is never really thought about again. The program intercepts the system's program loading routine and substitutes its own, speeding up loading times for Accessories and programs. Other goodies on this disk include a replacement screen font and *DC Deskswitch*, which enables you to load a new Desktop into the machine without rebooting.

STF Rating - 82%

DOS ACC

The ST Club - Disk UTI.113



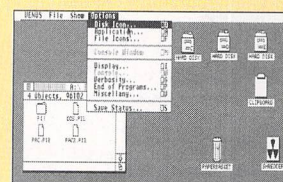
● **Dos Acc** is a replacement for the normal Control Panel and adds extra functions which are available from within any GEM program.

Dos Acc is a multi-function Accessory which replaces the Control Panel Desk Accessory. It contains over 30 different utilities including a disk formatter, directory printer, file copier, file mover, renamer, file printer and time setter. The utility works both as a Desk Accessory and as a program which you can execute from the Desktop. Also on this disk is *Medit*, a program enabling you to edit the mouse pointer.

STF Rating - 81%

GEMINI UK

Seven Disk - Disk ST372



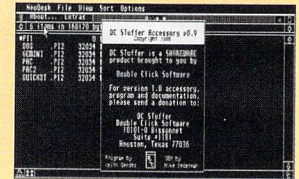
● See the lovely icons that *Gemini* give you to replace the boring old GEM ones.

Gemini is an alternative Desktop to replace the one provided by GEM, and is similar in concept to *Neodesk* except it doesn't cost £30 or more. It is not just a single program, but a suite of related utilities which completely replace the normal Desktop. Supplied with a comprehensive set of instructions and hundreds of icons, it is one of the best Shareware Desktops available.

STF Rating - 79%

DC STUFFER

South West Software Library
- Disk 2046

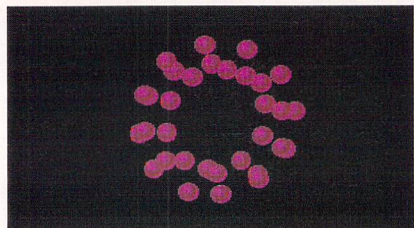


● The **DC Stuffer** Accessory selection menu from which you - er, select your Desk Accessory. It really is rather good.

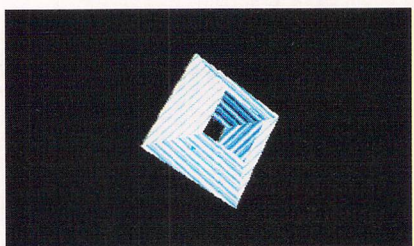
This is a wonderful PD utility from Double Click Software which enables you to overcome GEM's ridiculous limit of six Desk Accessories and install up to 32 at once. As long as you have enough memory in your machine, you can load every Desk Accessory you are likely to need for a session at the keyboard. Other goodies on this disk are *Mouse-ka-Mania*, a utility to design your own mouse pointers, and the *Mystic Formatter* - a utility to format disks as a background task, enabling you to get on with something else.

STF Rating - 78%

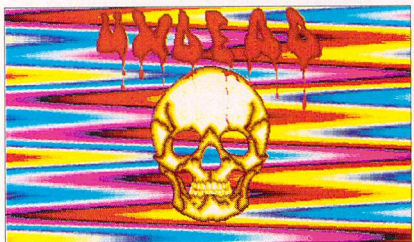
DEMOS



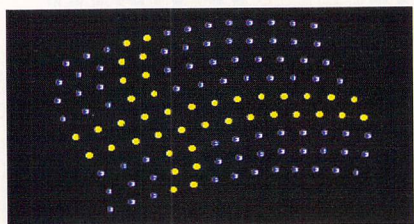
● The *Corporation Megademo* is the usual mix of sine waves and rasters each with its own spiffy sampled soundtrack. Here's one featuring those little balls again, wibbly-wobbly they go. You can fiddle about with the settings and mix your own wibble patterns.



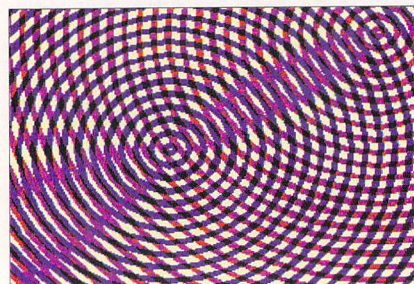
● The *Mental Hangover* demo features some clever stencil vectors like this shape in the shape of - er, a shape.



● The winning screen from the *Transbeauce Demo 2* coding party done by a group called The Undead, and what a riot of wibbly colours it is. The demo follows the classic formula of sprite guiding and sub-demos.



● Probably the prettiest bit of the *Massive Attack* demo are these flags. Hey! Guess what - they wobble and wobble around and are made from these little balls. The scroll line is the usual mindless greetings and insults.



● Yo! Visuals that get spacious with your head. *Kulturmelk* is like a mini music video. The sounds are in stereo, so it's STE only.

CORPORATION
MEGADEMO

Floppyshop ST - Disk DEM 891

A fairly groovy collection of demo screens. No menu - just keep pressing the Spacebar to step through them. There's a clever vector scroll line made from little balls. There's a screen with a whizzy starfield and a sine waving graphic. What sets this demo apart is the treat your ear gets - not one manic chip tune in sight. Hurrah again!

STF Rating - 81%

THE MENTAL
HANGOVER DEMO

State 808 PDL - Disk DEM 02

Hurrah! No menu, just sit back and watch the Pixel twins strut their stuff accompanied by a better than average sampled bit of tracker type sound. For the eyes, we get lots of colourful spinning shapes and clever coding. The whole thing is a little short, but beautifully produced.

STF Rating - 75%

THE TRANSBEAUCE
DEMO 2 DISK 1

Floppyshop ST - Disk DEM 898

The better half of the screens from a French coding party. Guide your ball round a scrolling landscape visiting a few demos. They are the standard scrolling wibbling text lines, borderless stuff, little balls doing sine waves and bouncing sprites. There are a couple of interesting sampled tunes. Everything's well put together, but not original or outstanding.

STF Rating - 73%

MASSIVE ATTACK

Riverdene PDL - Disk 973

Put together by a bunch called Madvision, *Massive Attack* is a rather short series of demos. You've got your spinning 3D cube and fag packets, your wibbling graphics and your silly scroll lines. Halfway through, there's a maze bit to negotiate. Not exactly mind expanding gear, although the 3D routines are pleasant enough in a sort of spinning cube-type way.

STF Rating - 72%

KULTURMELK DEMO

Floppyshop ST - Disk DEM 902

Simple one this - a sampled track with some funny graphics to look at. It's by a group - Imagina - from sunny Norway. The music is not bad, uses good samples but isn't exactly funky. The visuals are not bad either, bouncing logos and psychedelic patterns. The whole demo really isn't bad, actually. Not particularly good.

STF Rating - 69%

The FORMAT
PD directory

● Where to go for Public Domain software - demos, games and utilities for around £3 a disk! If you write to any of these libraries for a catalogue, enclose an SAE. ● Budgie games are available from all PD libraries indicated by a (B). Simply mention the disk number (above the review) when you order the disk.

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Awesomedemos, 3 Mason Road, Seaford, East Sussex BN25 3EE

B-Soft, 2 Oliver Drive, Calcot, Reading, Berks. RG3 5XN ☎ 0734 419981

Drake PD, 12C How Street, The Barbican, Plymouth Devon, PL4 0DA

Elmsoft, PO Box 17, Loughton, Essex IG10 2EE

EVPD, 15 Cleeve Road, Gotherington, Cheltenham, Glos. GL52 4EW

Freaks PDL, 29 Leap Valley Crescent, Downend, Bristol BS16 6TQ ☎ 0272 570122 (B)

Gemini Shareware, 10 Warwick Avenue, Slough, Berks. SL2 1DX ☎ 0753 28183

Imageart, 19 Brenda Road, Tooting Bec, London SW17 7DD ☎ 081 767 4761

Merton PD, 10 Grasmere Avenue, Merton Park, London SW19 3DX

MT Software, Greensward House, The Broadway, Totland, Isle of Wight PO39 0BX ☎ 0983 756056 (B)

New Age PDL, 30 Anderson Estate, Lower Road, Hockley, Essex SS5 5NG ☎ 0702 232826 (B)

Paradise Computers, 11 Winfield Avenue, Patcham, Brighton, East Sussex BN1 8QH

PD Essentials, 22 Fern Avenue, Mitcham, Surrey CR4 1LS

Prophecy PD, 390 Coulsdon Road, Old Coulsdon, Surrey CR5 1EF ☎ 0737 554536

Public Dominator PD Atari, PO Box 801, Bishops Stortford, Herts. CM23 3TZ ☎ 0279 757692 (B)

Public Sector PDL, 50 Ripon Road, Stevenage, Herts. SG1 4NA ☎ 0438 364722 / 361324

Riverdene PDL, 30a School Road, Tilehurst, Reading, Berks RG3 5AN ☎ 0734 452416 (B)

Senlac, 14 Oaklea Close, Old Roar Road, St Leonards On Sea, E. Sussex TN37 7HB ☎ 0424 753070

Seven Disk, Digswell Water Lodge, Digswell Lane, Welwyn Garden City, Herts AL7 1SN ☎ 0438 840456

Softville PD, Unit 5, Stratfield Park, Elettra Avenue, Waterlooville, Hants PO7 7XN ☎ 0705 266509 (B)

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The Circular PD Library, 14 Morrison Drive, Lennoxtown, Glasgow G65 7BA

Floppyshop ST, PO Box 273, Aberdeen AB9 8SJ ☎ 0224 312756 (B)

Office Choice, Suite 14, Avon House, Town Centre, Cumbernauld G67 1EJ (B)

State 808 PDL, 3A Old Lanark Road, Carluke, Scotland ML8 4HW

WoolleySoft, Humblesknowe Cottage, Ramolye, Dunblane, Perthshire, Scotland FK15 0BA

WALES

Shoestring Software PDL, 78 Carmarthen Road, Swansea SA1 1HS

OVERSEAS

Algemeine ComputerClub Nederland (ACN), Postbus 5011, 200 CA Haarlem ☎ Holland 023 351100 (B)

Atari ST User Group Norway, c/o SA Jensen, N-3630 Rodenberg, Norway

Dom's Pubs, 10 Rue du Vergeron 38430 Moirans, France

Public Domain Corporation, 4320 - 196th SW, Suite B-140, Lynnwood, WA 98036-6721, USA ☎ 0101 206 745 5980 (catalogue £1)

ST-PLUG, 1670 Heron Road, Box 22026, Ottawa, Ontario, Canada K1V 0C2 ☎ BBS 0101 613 731 2779 (B)

Wacko Software, Willem Pijperstraat 63, 1077XL Amsterdam, The Netherlands

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● If you run a PD library not listed here and wish to be included, or if you are already listed and want to amend any details, send full details and a copy of your latest catalogue to: PD Directory, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW

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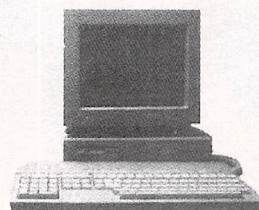
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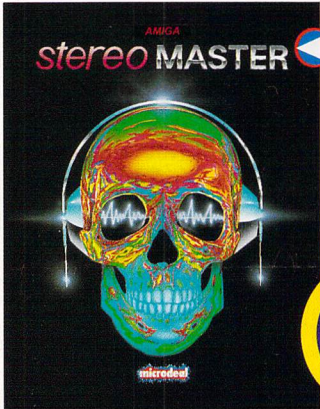
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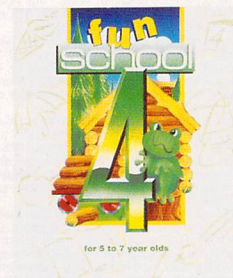
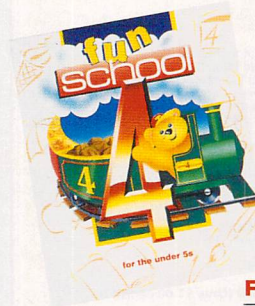
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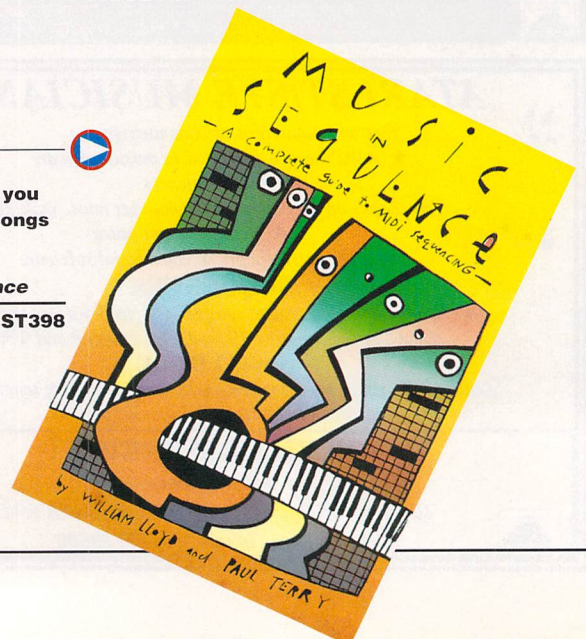
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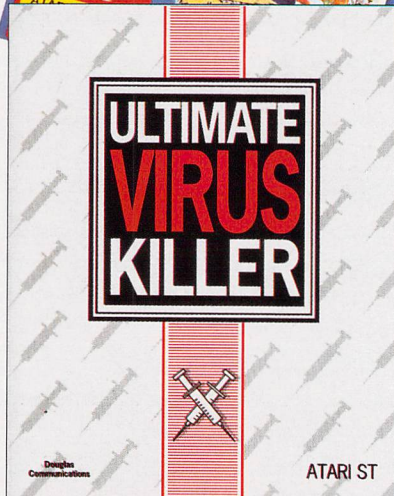
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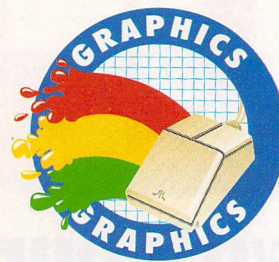
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Full Volume



"Pssst. You'd, uh, be interested in some – er, modelling, would you? Candid mod-

elling using the Disk? S'good fun, honest. 'Ere, look at these pictures. Eh? What d'ya think?" Ed Ricketts points out that it's all clean and above board 3D modelling, with no sordid nastiness whatsoever. (Eh?)

By now you should have noticed a small programette on this month's Cover Disk going by the thrilling name of *Volume* – if you haven't, nip back to page 14 and notice it now. This intriguing collection of code has nothing whatever to do with calculating how much water would be produced if two men poured four gallons of water into three baths over five days. No, what it does is model 3D objects.

Think of those animated computer films you might have seen, like *Red's Dream* or – er, that one with the baby. The objects in these films are made using some of the same techniques that *Volume* uses – taking simple shapes as cross sections and manipulating them – by spinning or extruding – into what appear to be solid objects. Obviously you're not going to create the kind of detailed masterpieces that the likes of Pixar produce for their films, but you can go some way towards producing some everyday objects of the more regular kind, such as lamps, pens and mugs (the tea kind, not the face kind). With a bit of ingenuity, it's also possible to produce objects which would be impossible or difficult to create in real life. That's one of the fascinations of 3D modelling – making shapes just for the hell of it. They're not useful, they're not important, but by heck, they're fun to play around with.

One of the most confusing things about using *Volume* is visualising how to create an object you might have in mind. For example, have a look at the example file included on the Disk called MARIE.VOL – the heart which with the arrow through it. This looks like a very complicated object to draw, being composed of several parts. In actual fact it's quite simple. The whole shape is defined as one profile – there's no complicated joining of 3D objects to be done (you can't do that in *Volume* anyway). The cross-section of the object is sort of a four-pointed star which defines the arrow-head and gives the shaft of the arrow its roundness. The heart shape is half a convex disc,

which, when combined with the outline shape, forms a near-perfect heart. You might think a circular outline would be best for this shape, but just try changing the outline to a circle and you'll be surprised at the difference it makes.

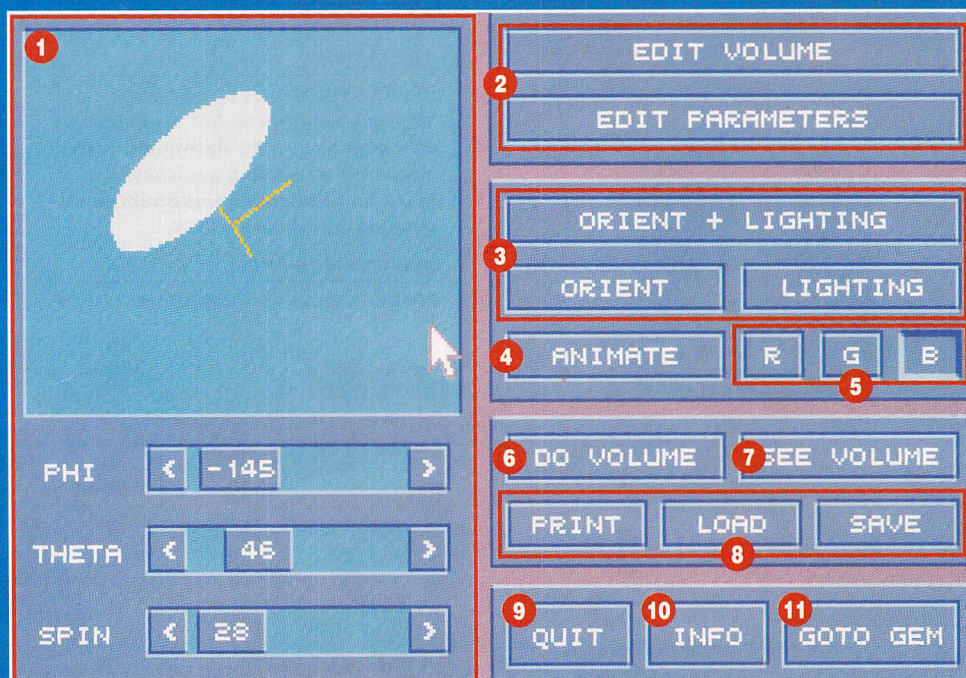
Sometimes the only way of finding the perfect combination of outlines and profiles for the shape you have in mind is to experiment. Completely circular outlines work for a lot of objects and it's usually best

to start off a new object with one of these until you get the profile sorted out.

Feel like getting to grips with 3D modelling? In these pages, you can find all you need to know to get started with *Volume*. So rip off that Cover Disk (gently), wang the disk in the drive (pausing only to make a backup, of course), load up *Volume* and get modelling. It's easier than saying "Deoxyribonucleic acid." (Backwards. In French.)

ORIENTAL LIGHTING? WHAT?

Volume's main control screen – the nerve centre of the program, the bridge, the CPU, the... You get the idea.



- 1 This diagram shows the orientation of the 3D object, with an outline at one end, which can be altered with the three sliders (Phi, Theta and Spin) below. Phi and Theta rotate the object relative to the centre of the universe in two axes; Spin rotates the object around its own axis. Confused? Dig in there and you'll soon see.
- 2 Edit Volume/Parameters takes you to separate screens, explained on page 49.
- 3 Before you can see your 3D object in all its glory, you need to click on Orient and Lighting to position and shade the object. If you've made changes to either the object's position or the lighting (on other screens), click on the appropriate button to register those changes. If you don't, the object is drawn as it was before you made the changes.
- 4 Animate enables you to produce a series of frames for an animation. You set the start and end positions and the program does the rest. This is explained more fully on pages 50-51.
- 5 Click on R, G or B to set the object's red, green and blue colour shades.
- 6 This only appears when you've set the object's orientation and lighting. This magic button actually draws the object on screen.
- 7 If you have previously drawn an object, you can click on this to see it again without it needing to be redrawn. Of course, if you've made any changes since the previous rendering, you need to use Do Volume to redraw it.
- 8 Print, Load and Save – er, print, load and save a Degas format P11 picture file of the current object, not the definition of the object itself. You can do that from the Edit Volume screen.
- 9 Quit. (Yes!)
- 10 Gives you some useful info on the object and suchlike.
- 11 Enables you to access any Desk Accessories you have loaded.

CRANK UP THE VOLUME – THE EDIT VOLUME SCREEN

1 Clear simply removes all points from the profile.

2 These figures show you how many faces are defined in the profile cross-section and also the total number of faces your object is to have when defined with the current parameters.

3 Spline is hard to describe but useful to have around. All it does is to add extra points between the ones you've defined to make a smoother shape. For example, you can make a fairly smooth curve by joining the corners of the squares and then splining. The amount of points added is set with the Spline slider at the right. The more points you spline, the more faces the final object has and the longer it takes to draw.

4 The profile definition. This is the shape of the object viewed side-on. Each point is defined simply by clicking, and the grid can be used to help you produce straight lines. Unfortunately there's no snap option and no way of editing a point's position once it's placed. You can start another profile by clicking the right mouse button, though. If the profile bleeds off the left margin, as here, it's mirrored to produce the other side and you get a symmetrical object. If it's a completely defined shape of its own – say somewhere in the middle of the screen – the results are less predictable, but you usually end up with a shape with a hole through the middle. Give it a try and you can see what we mean.

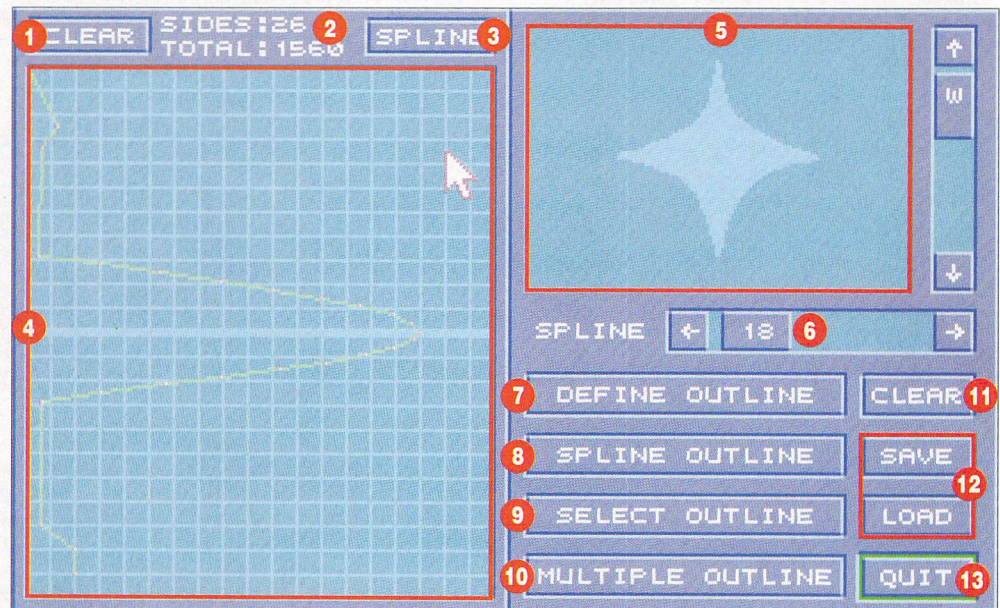
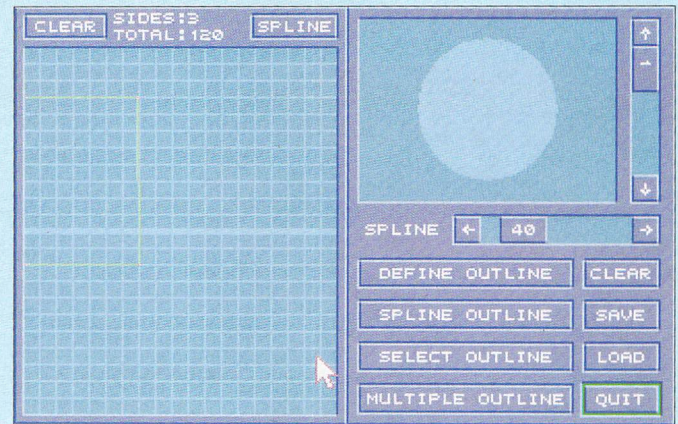
5 The currently selected outline. This can be changed by moving the slider at the right. There are 15 predefined shapes built-in, but you can define many more – up to a total of 40. See the Define Time box for more details on how to make an outline.

6 Sets the number of points the profile is splined by.

7 Enables you to define a new outline. See the Define Time box. (Click with the right mouse button to reset the first five predefined outlines.)

8 Spline Outline calculates outlines automatically between the first and last defined ones. Eh? Well, say you have a circle defined in outline 1 and a square in outline 10. This function simply fills in the outlines between 1 and 10 with a gradual transformation between the circle and the square. Clicking on this then right clicking on Select Outline automatically assigns the outlines to the points of the profile so you get a

3D objects are defined in Volume's Edit Volume screen, using an outline and a profile. The outline is the cross-section of the object, which is "extruded" down the length of the profile. The outline is changed as the profile changes. So, for example, with a circular outline and a profile like a rectangle with one edge missing, it goes like this: you get a cylinder, because the profile is straight all the way down. Putting a curve in the side distorts the circular outline.



smooth transition along your object. Again, give it a try – it's not as complicated as it sounds.

9 Select Outline tells Volume to use the currently selected outline for this object. Right clicking does something else – see Spline Outline.

10 Clicking on Multiple Outline enables you to assign any outline to each point along the profile. Each point is selected in turn – you

change the outline using the slider and then click on Select Outline to assign it. This is repeated for every point.

11 Clears the current outline.

12 Saves/loads profiles, outlines or entire volumes (defined shapes).

13 Well – quit, really.

PARAMETRICALLY SPEAKING

Tons of sliders and things to play with here in the Edit Parameters screen. Some of them are actually quite useful, too.

1 Sides sets the number of faces used in the 3D object. The more sides, the smoother the object, but it's bigger in terms of disk space and takes longer to draw.

2 Interesting, this. The value specified here sets the amount (angle) of twist in the object – up to two complete revolutions. Simple shapes, like cylinders, can look good twisted.

3 These set the percentage of the object that is created. Start Angle = 0 and Revolution = 360 obviously gives a complete object.

4 This section is self-explanatory. Alter the sliders to move the position of the light, and click on

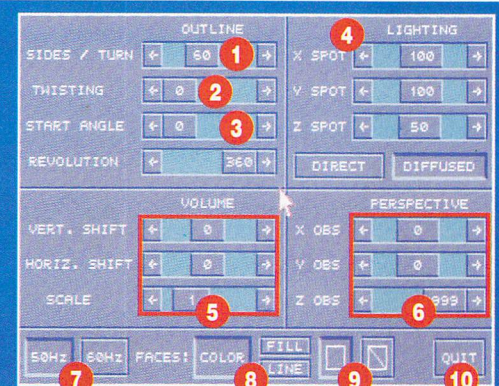
Direct or Diffused to make it harsh or soft.

5 Vert/Horiz Shift affects the position of the object in the 3D "universe," and Scale alters its size.

6 Play with perspective to get weird telephoto or wide angle lens effects.

7 Swaps display frequencies. Gives a slightly bigger screen on a monitor, but doesn't work on a TV.

8 Color draws the object in solid 3D with lighting effects; Fill draws all faces in one colour; and Line draws the object in wireframe 3D.

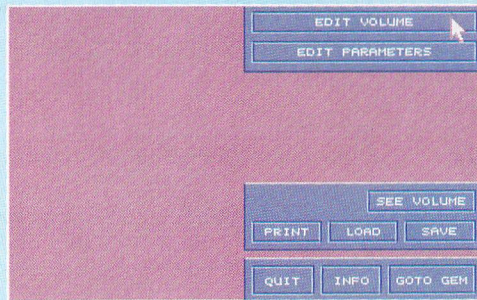


9 Faces can be drawn either as rectangles or triangles. Alter these to suit your taste.

10 Get back to main menu.

VOLUME ONE

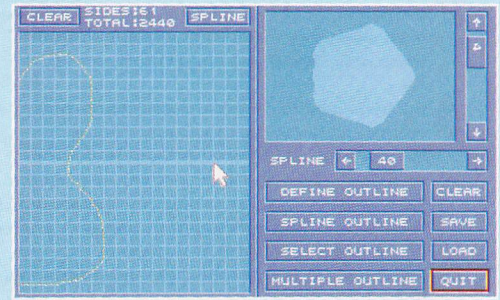
While *Volume* isn't really suited to modelling complex real world objects, it can be used for more regular shapes, such as pens, lamps or completely abstract creations. Have a look at some of the .VOL files on the Disk for examples of what can be done. But first, try this.



1 Get the program loaded up from your backup disk. You notice that most of the functions haven't appeared yet, because you haven't defined any profiles or outlines. Click on Edit Volume.



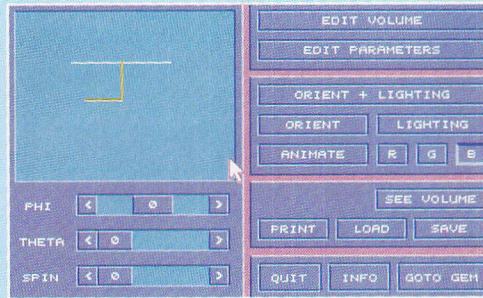
2 Behold the volume definition screen. We're going to model an - er - well, it's an abstract, actually. Have a good look at the outline in the picture and try to copy that closely. Draw slowly and the curves stay fairly smooth. If you can't get it right, the profile's on the Disk under the filename EXAMPLE.PRF.



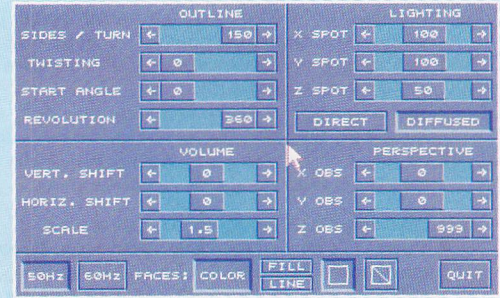
3 At this point we need to choose an outline. Use the arrows to get to outline 4 - the pentagon.



6 Change the Phi slider to -56, the Theta slider to 43 and leave the Spin slider as it is. Click on Orient and Lighting to tell the program to set up the object. The Do Volume button appears.



4 Click on Select Outline, and the box around the Quit button turns green, telling you the volume is properly defined and it can now be drawn. So click on Quit to get to the main screen. Now we've got the orientation diagram and several other buttons activated.

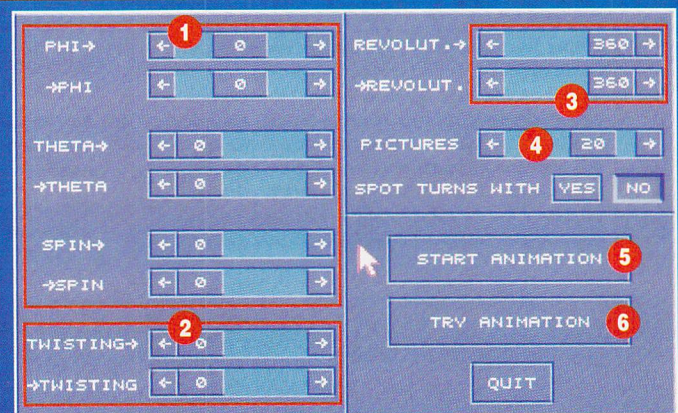


5 Nip over to the Edit Parameters screen and change the Sides/Turn slider to 150 by dragging or clicking on the arrows. Put the scale up to 1.5. Leave everything else as is and click on Quit.

AUTOMATIC ANIMATION

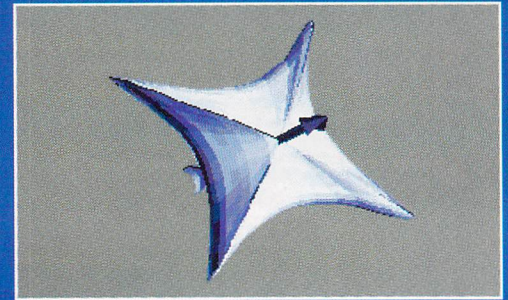
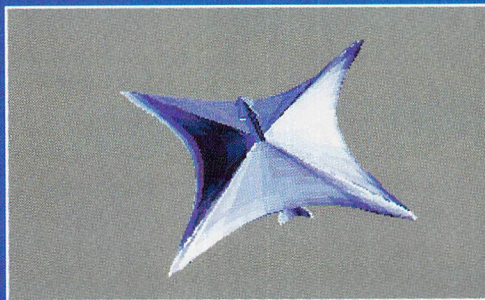
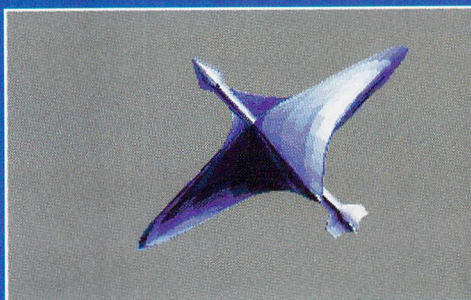
Volume also includes a fire-and-forget style animation feature which handles everything automatically for you. You set the start and end co-ordinates with the other values and *Volume* calculates (tweens) the

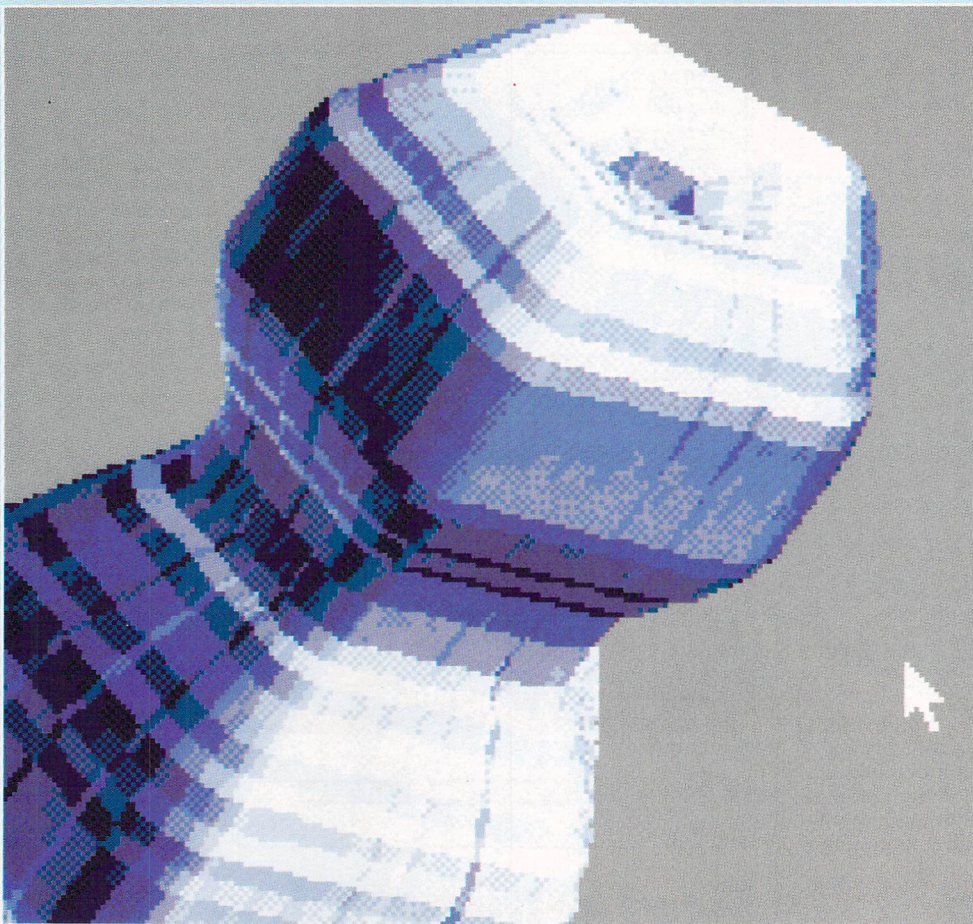
frames in between to fit the number of frames you define. Pictures produced here can be played back with the companion program ANIM2.PRg - see page 14 for more details on how to use it.



MY GOD, IT'S - IT'S - MOVING

Mmm, look at the wonderful results you can get from using the *Volume* and *Anim2* programs together! Why, it almost





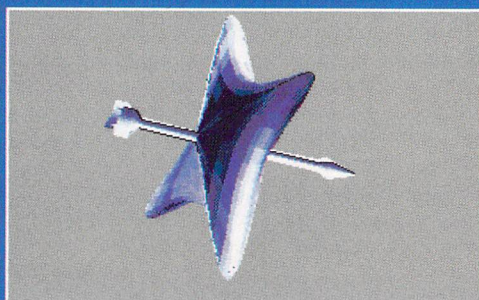
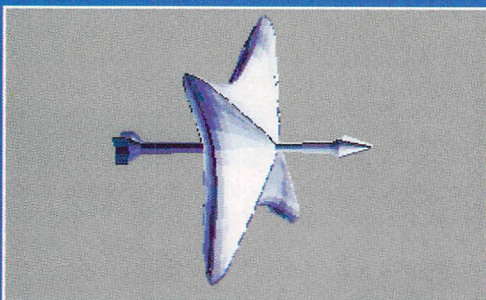
⑦ Finally click on Do Volume to see the thingy. Yes, okay, it's not stunning. But that's where you come in. Fiddle around with the other parameters – the colours, the angles, the Twist parameter. The world is your oyster. Now there's an idea – a world and an oyster...

- ① Move the Phi, Theta and Spin sliders to set the start and end values of these coordinates for the animation – start value above, end below. The best way to find these values is to use the diagram and sliders on the main screen and note down the values.
- ② As in the Parameters screen, the Twisting sliders set the start and end degrees of twist. For some good animations, use a simple shape (like a cylinder), set the start twist to 0, the end to 720 and do 20 or so frames.
- ③ With the Revolution sliders you can set the amount of the shape generated, so that, for instance, the shape "grows" during the animation. Incidentally, don't set the first parameter to

0 – the program goes a bit wonky and seems to give up.

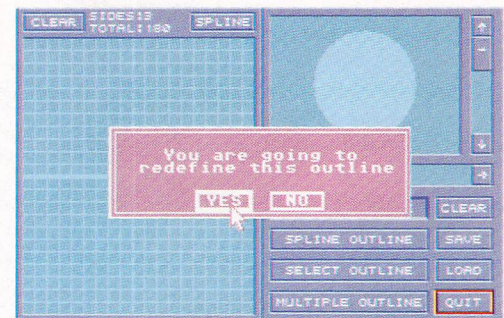
- ④ The number of generated frames (pictures) produced is set with this. *Volume* can only save frames to floppy disks. The maximum you can get on a normal double-sided disk is 20 pictures, though, of course, if you've got a hard disk you can generate really long animations in batches and transfer them from floppy.
- ⑤ This begins drawing and saving an animation sequence to disk. Make sure you've got a blank disk handy before selecting it.
- ⑥ If you just want to look through the frames of your animation before saving it, click on this. Each frame is drawn but not saved.

makes you want to leap up, grasp the Cover Disk and shout "Yes! I can do these wonderful 3D shapes, and by heck, I'm going to!" Anyway, this is a simple sequence done with an example file.

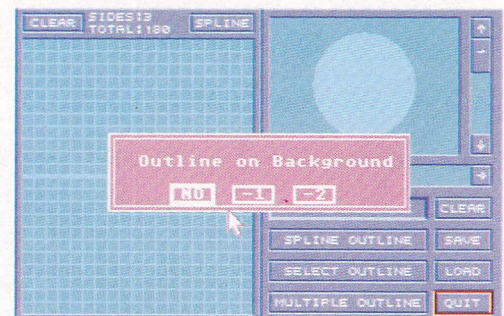


DEFINE TIME

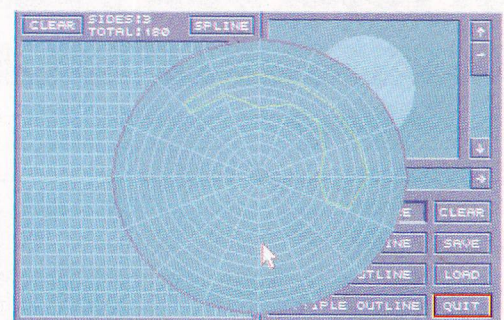
Defining outlines of your own is easy.



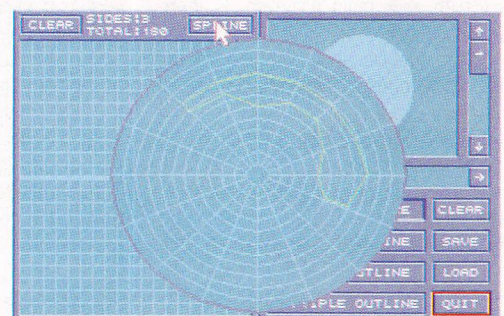
- ① First, click on Define Outline and answer Yes to the prompt.



- ② The next prompt asks you whether you want any of the previously-defined outlines on-screen while you make a new one. You can choose between having none, one or two. This feature is useful for aligning your new outline with previous ones if you're designing a sequence of outlines.



- ③ A radar scope-style thing appears. Now just click the points you want in your outline – each is joined to the last, obviously. You can start again by clicking on Clear in the top left.



- ④ When you've finished, you need to click on Spline. This splines the points in your outline. There's something to note here. Because all the outlines are splined, straight-sided objects become curved if they're defined with their minimum number of points. A triangle defined with three points, for example, usually ends up looking like a circle. If you specifically want a straight-sided outline, draw it "freehand" – with the button held down – so many points are defined. Try it, try it – it does make sense.

Nervous? Tense? Unsure of what to buy for your ST? You need STF's comprehensive reviews section... and a shrink



● Cynics might say the Alfa Data Trackball is just a mouse turned upside down, with a transparent ball lit by green or red LEDs. But not us. Hey, we're no cynics!

Crystal ball gazing

Alfa Data Crystal Trackball

MACHINE: ALL STs

PRICE: £34.95 / £39.95

FROM: GASTEINER TECHNOLOGIES

CONTACT: 081 365 1102



Mice are marvellous, but they do have at least a couple of drawbacks: they're always getting clogged with dirt, and you need to leave acres of desk space clear for them to move around – unless you use a mouse accelerator program, but many of those can interfere with your main program. Is there an alternative?

Yes: the trackball. It's like an upside-down mouse – you move the ball with your fingers, so the unit remains stationary. The Alfa Data Crystal Trackball is the best for the ST. It's a compact 14 x 10 cm, nicely curved for comfort, and the three buttons are placed within easy reach. Three buttons? Yep. The right and left ones are as usual, but the bottom one is a latching left switch, like a caps lock for the left mouse button – great for moving objects around the screen without having to hold the left button down, or for scrolling through menus or file-selectors. A swift click with the left then releases the object. For game-playing, the bottom button can also be used for auto-firing.

All three buttons use precise micro-switches. Alfa Data reckon the ball

should last for 100 miles and the switches for one million cycles. All you need to do is to take the unit apart every six months or so and clean the rollers with tape head cleaner.

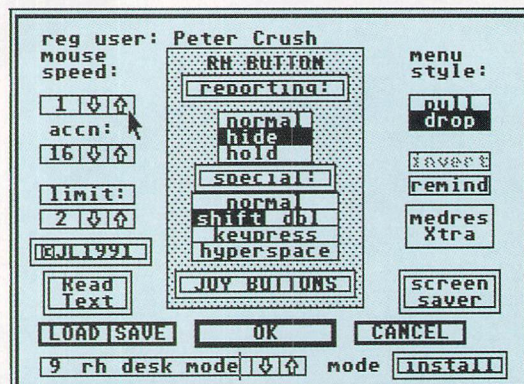
The ball is very smooth in use and its size gives you more accuracy on-screen than conventional mice. Even a moderate finger-roll takes you from one side of the screen to the other, thanks to the high resolution of 162 dpi and a tracking speed of 1,100 millimetres per second. There's certainly no need for an accelerator, and drawing a curve with a desktop publishing or art program becomes so easy.

The Crystal Trackball comes in two versions: on the more expensive, the ball glows green when you press the left button and red when you press the right – sexy or pointless? You decide.

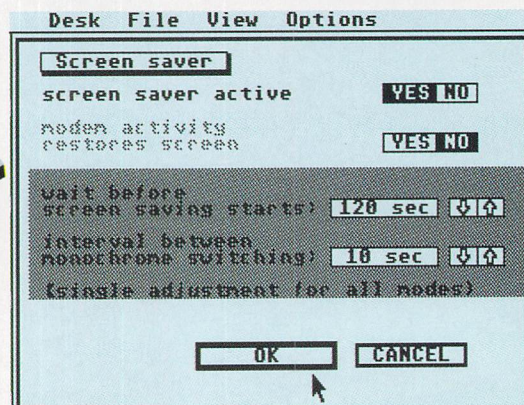
The Crystal Trackball costs a bit more than a mouse, but if it lives up to the claims it should last much longer than a couple of mice. Whether you are using your ST for games, DTP, art or music, you may never want to go back to a mouse.

VIC LENNARD

STF RATING: 92%



● All the settings for your mouse are easily set from this simple control panel in *Mouse Tricks 2*, which you can call up whenever you want.



● *Mouse Tricks 2* contains a screen-saver, which can be set to come into effect exactly when you specify. This helps prevent ghost images of unchanging parts of the display being "burned" into your screen.

Performing mice

Mouse Tricks 2

MACHINE: ALL STs

PRICE: £10.00

FROM: Jonathan Lawrence

CONTACT: 76 Sistova Road, London SW12 9QS



The whole point of a graphical user interface like GEM is that it should be a convenient way for you to communicate with your ST. But all too often, the humble mouse – the front end of GEM – is totally neglected. There have been a few Public Domain utilities (like MACCEL, the mouse accelerator that was yours on STF Cover Disk 31, and RAT-TRAP, which prevents menus dropping down), but no serious attempts to produce a commercial, "all singing, all dancing" mouse utility. Until, that is, the advent of *Mouse Tricks 2*, the souped-up successor to its PD forerunner. There was a demo version of it on Cover Disk 28. (If you missed any of these issues, turn to page 62 for the STF back issue service.)

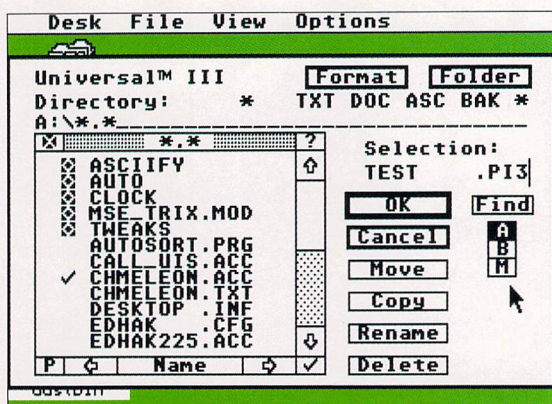
Mouse Tricks 2 is a Desk Accessory, so it is available from within other programs, so long as you can get the GEM menu bar. You can set the exact speed for the mouse pointer, using very fine adjustment parameters to determine both the speed and degree of acceleration. You might want fast speeds for one program – say, your word processor – but normal slow speed for *Degas* or other drawing pro-

grams. No problem! You can set up different speeds for up to 40 programs, then enter their names into a dialog box, and when they run the correct "mouse mode" is activated automatically. You can define 20 mouse modes, and they can contain other settings too, such as whether menus are drop-down or pull-down, and various "special effects" for the right mouse button. For example, this can be configured to simulate the <Shift> key, useful for selecting more than one file on the Desktop – you can hold down the right mouse button while clicking on files with the left button.

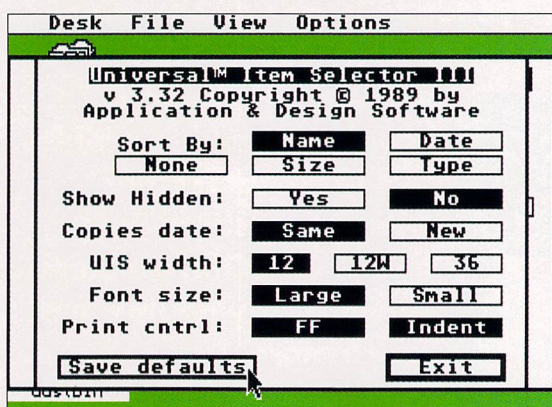
Included in *Mouse Tricks 2* is a feature called Read Text, enabling you to load in and scroll through text files – useful for reading instructions from disks. It can handle up to eight different files at once, and you can even mark and save blocks of text. *Mouse Tricks'* logical and well-designed dialog boxes make it easy to carry out all the user-adjustments possible, and it contains many other ingenious features which make it a must for serious users.

PETER CRUSH

STF RATING: 90%



● Although this looks a bit like the ordinary ST file-selector, *Universal Item Selector* contains a hidden wealth of incredibly useful built-in features.



● For example, *UIS* enables you to define the way that files are sorted, dated and displayed. You can even show those files which are normally "hidden."

Universal acclaim

Universal Item Selector v3.32

MACHINE: ALL STs

PRICE: £14.95

FROM: THE ST CLUB

CONTACT: 0602 410241



Convenient though **GEM** may be in general as a control system for your ST, the standard Atari fileselector wins no prizes for user-friendliness. (The file-selector is the dialog box which pops up when you load or save a file.) There are alternatives: you could place Public Domain programs like *FSELECT* in an *AUTO* folder on your boot disk – that is, simply a folder called *AUTO*, which is not contained in any folders itself – so the standard *GEM* selector is replaced by a better one. Or you can try *Universal Item Selector 3*, recognised as the best replacement fileselector of the bunch. The latest version is just out, at a bargain price.

To use *UIS 3*, you must copy it into an *AUTO* folder on your boot disk. Its features are similar to those of *FSELECT*, but are much more powerful, smooth and easy to use. What's more, *UIS 3* contains many options apart from merely selecting files. As well as creating or deleting folders, *UIS 3* can rename them, and if you need to format a disk, there's no need to exit to Desktop – you can do it from within *UIS*. You can copy, move, delete and re-name files or folders, making multiple selections and

moving or copying them between disks, and so on. You can even do all this from within other programs: supplied with *UIS* is a Desk Accessory that enables you to call up *UIS 3* whenever you need it, not just when files are loaded or saved.

You can change the directory line, filename extensions and file mask by clicking and dragging a name from elsewhere in the selector box. You can quickly select from 28 user-definable filename extensions – four of them can be displayed near the directory line. Pathnames can be set up, saved as defaults and instantly recalled for quick selection when you are saving files – handy if you're using a hard drive. Many operations can be performed without any typing: just point, click and drag with your mouse. Both mouse buttons are utilised: the right button is used as a <Shift> button – hold this down and click with the left button to make multiple selections. The more you use *UIS 3*, the more you like it, and the more uses you find for it. Soon you're wondering how you ever lived without it!

PETER CRUSH

STF RATING: 90%



● The latest Star LC-20 continues the stylish lines of Star's previous bestsellers, and this one looks and performs like another winner.

Star performer

Star LC-20 dot matrix printer

MACHINE: ALL STs

PRICE: £234.00

FROM: STAR MICRONICS

CONTACT: 0494 471111

Star printers have become justifiably popular with ST owners because they offer excellent features at a reasonable cost. The ubiquitous Star LC-10 has now been superseded by the new model LC-20, modestly described in the user handbook as "a convenient monochrome printer without frills but with a full complement of features."

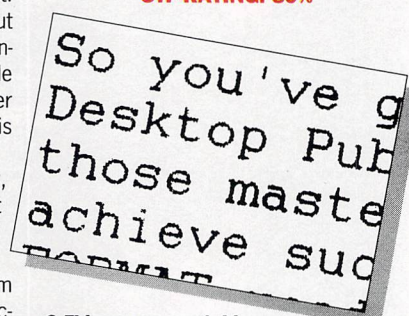
The LC-20 is a light grey, plastic-bodied machine 396mm wide by 301mm deep by 120mm high, with the stylish curved lines associated with Star. The controls are on the top panel, and the On/Off switch is on the front. The standard Centronics parallel input is on the right-hand side. Paper handling is good: it copes with single sheets, fan-fold and multipart paper admirably, and a clip-on paper guide is all you have to fix up.

The printer has Draft, Courier, Sans serif and Orator typefaces built in, and these can be printed at 10 and 12 characters per inch, selectable from the top panel controls or from within your software. Proportional Spacing and Condensed are also included, making this a very well specified budget machine. The printer is not too noisy

for a dot matrix, and has a Quiet mode which reduces noise even more but at the slight expense of speed. The standard *STF* test page – an A4 page of text – took just 38 seconds to print in Draft quality, but a slowish 2 minutes 30 seconds in Near Letter Quality. Considering that the LC-20 is only a humble 9-pin printer, however, the results are extremely good. If you are looking for a low cost printer, this is a very good buy, especially considering it's available in the shops for around the £150 mark.

PETER CRUSH

STF RATING: 89%



● This very acceptable print output from the Star LC-20 belies the modest price, and it does very well indeed with a mere nine pins!

YOUR GUIDE TO A NEW WORLD OF PC LEISURE

PC Format is the UK's leading PC leisure magazine and is devoted entirely to helping you get more out of your leisure time with the PC. Issue 7 is out on March 26 and fast-forwards you into the exciting world of

video. We'll show you how to liven up your home videos with titles and graphics, and how to get video images on to your PC.

The rest of the magazine is packed with everything needed to keep you entertained:

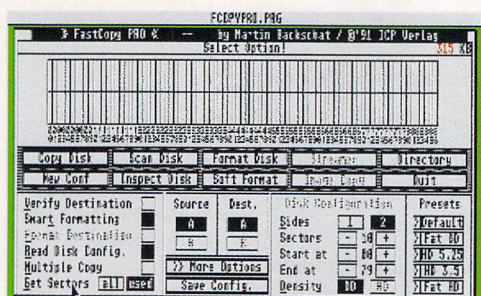
comprehensive game reviews, incisive and thought-provoking profiles, plus essential regular columns on shareware, music, CD-ROM, problem solving, playing tips and much more. Don't miss it.



For all this and more, make sure you get issue 7 of *PC Format* on March 26 and enter a new world of PC entertainment

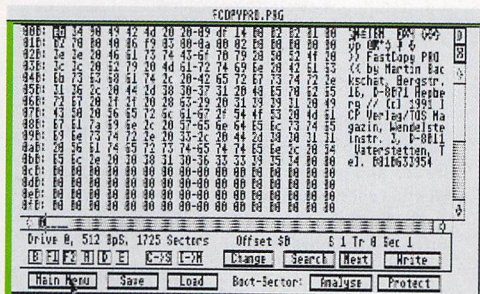
Future
PUBLISHING

Your guarantee of value



● The main screen of *Fastcopy Professional* at first glance looks identical to that of *Fastcopy 3*, but there are marked differences. All functions now have keyboard shortcuts and many functions have been enhanced.

● The *Inspect Disk* option opens up this complex looking disk editor and virus checker window. Do not use these features unless you know exactly what you are doing – programs and files could disappear before you know it.



→ A better ST formatter

Fastcopy Professional

MACHINE: ALL STs AND TTs

PRICE: £24.95

FROM: THE ST CLUB

CONTACT: 0602 410241

If you use your ST for serious applications, you must have found you need to use disk formatters and backup utilities at some time or other. You've probably used the Public Domain program *Fastcopy 3* and found it very versatile. The new version, *Fastcopy Professional*, is a full commercial package, complete with an 80-page manual. This manual is an essential part of the package because there are now so many features in *Fastcopy* that you could get quite lost without it. All the options from earlier versions have been enhanced and carried over to the new version, and many new functions added.

Enhanced functions

- The streamer option to back up hard drive partitions has been improved: it now compresses data while saving and optimises the partition when restoring data, thus curing any file fragmentation.
- The virus check option has been replaced by an *Inspect Disk* function. This now leads into a comprehensive disk editor which enables you to study, repair – and destroy! – data on your disks. There are several options available, including analysing and protecting disks against viruses.
- When you're backing up your disks the source disk's configuration can be read and duplicated to make the backup identical to the original.
- Disks that contain data you no longer need can be speedily re-formatted using "soft formatting." This means that the directory, the FATS (file allocation

tables) and the bootsector are wiped clean and rewritten, and any information on the disk is erased. Soft formatting takes about two seconds but the process only works on previously formatted disks.

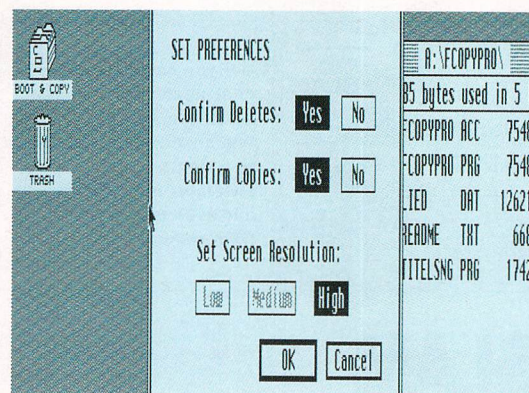
New features

- "Smart formatting" of destination disks while copying. The program can automatically detect whether a blank disk is formatted or not and can format it if necessary.
- "Image copying" of an entire floppy disk, which can then be saved as a single file to a hard drive for data backup purposes.
- There are now keyboard shortcuts for all functions, and hitting the <Help> key displays a list of the keys.
- The program configuration can now be saved to disk. This actually alters the program file itself and may cause problems if used with virus detection utilities such as Sagrotan, which record the CRC checksum data of a file.
- On 520 and 1040 STs hard drives may now be used as extended memory for temporary storage while copying floppies.
- High density disk formatting of both 3.5 inch and 5.25 inch disks is now supported in the Mega STE and TT (and also in STs with upgraded drives and floppy drive controllers).

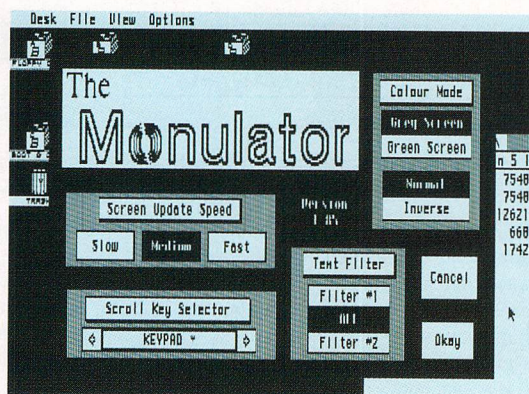
All serious ST owners are sure to find this package helpful. It is an excellent utility packed with useful features.

CLIVE PARKER

STF RATING: 83%



● The Preferences menu in High Definition mode using the *Moriarty Monulator*. Note that all text and windows are double height to enable viewing of the entire high resolution screen. All Desktop icons are the same size as on the medium res Desktop.



● The new *Monulator* accessory dialog box. Features include the green screen option and the normal or inverse display option. The screen update speed can also be set here. Remember, the faster the screen update speed, the slower your software runs.

The black and white solution

Moriarty Monulator v1.85

MACHINE: ALL STs

PRICE: £20.00

FROM: MORIARTY SOFTWARE

CONTACT: 0293 539215

The *Monulator* is a commercial mono emulator which enables you to run high resolution software on a colour monitor with all pixels displayed. *Monulator* scores over PD emulators in two main respects: display quality and speed. There are two screen modes: high definition and full screen. High definition gives you full access to every pixel of an image for editing in an art package or a DTP program. This feat is achieved by doubling the height of the medium res display and outputting the high res image to the screen in a direct pixel to pixel relationship – the screen scrolls vertically so you can get at the extra bits. If you need the whole high res display on-screen, you can switch the emulator to full screen mode by means of a user defined hot key, configured from the *Monulator* accessory.

The accessory is the major upgrade from earlier versions of the program. It gives you a control panel style dialog box to alter the screen update speed, select the hotkey to switch between screen modes, select the text filter, toggle the display between nor-

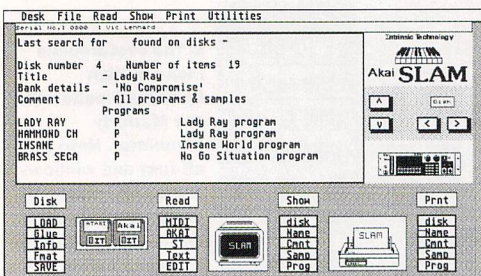
mal and inverse and switch to and from green screen mode.

Normal full screen mode is a little better in quality than the PD offerings, although rather faster. The *Monulator* improves on this with the Text Filter option, also accessible from the hotkey, which enhances the system font by using a special algorithm to filter out unnecessary detail. This results in a crisper text display and a speed increase of up to 30%, making it ideal for word processing purposes. There is a corresponding loss in the fine detail of scroll bars and icons but that's what the high definition mode is there for.

The display is not quite perfect in full screen mode, but *Monulator* enables you to use high res software on your colour monitor without having to shell out for a mono monitor. If you want to use high res software frequently, then you are still going to need a high resolution monitor, but *Monulator* does the job it was designed for and does it well.

CLIVE PARKER

STF RATING: 82%



● If you have one of the Akai samplers it supports, **SLAM** can make it easy to find anything from a sample to a single sound, print a disk label listing samples and even read sample data from an Akai disk.

Grand SLAM

SLAM sample librarian

MACHINE: ALL STs; AKAI S900, 950 AND 1000 SAMPLERS

PRICE: £89.00

FROM: INTRINSIC TECHNOLOGY

CONTACT: 081 761 0178

Samplers are wondrous things that enable you to record sounds and then process them in many ways, but samples are very memory-consuming. Once you get the sampling bug, you start using disks like they're going out of fashion. Then how do you keep account of what samples are stored on which disk? Well, now there's **SLAM** – the *Sample Librarian And Manager* for Akai's S900, 950 and 1000 samplers. That should save a lot of people a lot of paper – Akai estimate that combined sales of these samplers have probably topped half a million.

You can log your samples and keyboard layouts ("programs") in the Library side of **SLAM** and save them to an ST disk, then perform searches on any of the text fields with the Manager side; it's effectively a database, but one created for a specific purpose. And you can print the information you type in for each disk onto a label which then contains the disk number.

While the Akai samplers use the same 3.5 inch disks as the ST, the disk format is different. What Intrinsic Technology have done is decode the directory on an Akai disk so that you can read it directly from the ST's drive. However, this only works with TOS 1.0, so a boot disk with this version of TOS is included. You only need to use this if you are reading Akai disks; the rest of the program runs under any version of TOS and on any ST. So, in practice, you take a long session to type in all the details for your disks and then not bother with the boot disk again. **SLAM** can also get the information for samples and programs by using a MIDI lead connection to the sampler. Transfer only takes a couple of seconds; remember that only the directory information is being read, not the actual sample waveform data.

The first time you boot up, you have to go through quite a rigorous setting up procedure for the type of sampler, size of library, label size and layout, and so on. This is then saved to

disk and loaded up each time you subsequently use **SLAM**.

The well laid out main screen uses standard GEM menu options, with most of them offered at the bottom of the screen to save you the hassle of "menu-hunting." There are also key-equivalents for most of the menu options.

After you've read in a disk, you enter a title (say, "acoustic snare drums"), bank details (for instance, drums) and comments (like date, project and so on) for the disk. You can then enter individual comments for each sample and keyboard layout program. All information can then be printed onto a sheet of A4 and a detailed disk label can be created. You can make any changes to comments or details using the Editing facilities, which include Delete, Copy and Merge options.

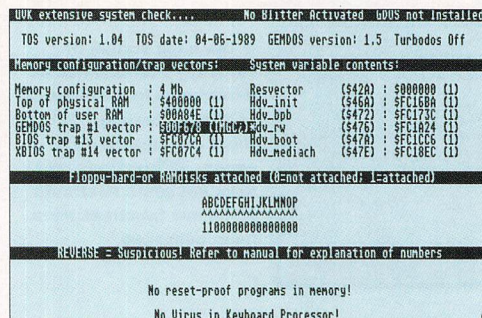
It takes some time to prepare your library, but after that you can start to search for samples. If you have made your comments and details meaningful, life can be easy: you can search for sounds used in a particular project, of a specific category (strings, brass, and so on) or from an individual synth. You can also "link" libraries to search through several at the same time.

A "Text" feature enables you to type in information and so use **SLAM** as a conventional database for cataloguing your CD, cassette or vinyl collection, or whatever you like. "XReceive/Transmit" enables you to save the special MIDI information for individual synth sounds as a named file for transmission at a later date, so you can use **SLAM** as a single-sound librarian as well.

If you own any of the listed Akai samplers and need to keep tabs on what is saved where, **SLAM** is indispensable. Yes, you could use a normal database, but the direct Akai disk-reading facility and the ability to obtain the necessary data directly from the MIDI port of the sampler make this program well worth having.

VIC LENNARD

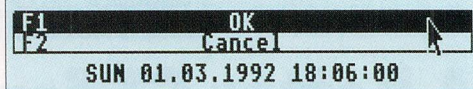
STF RATING: 80%



● The very first thing **Ultimate Virus Killer** does is run a system check on your ST, and if it detects anything that looks a bit dodgy, it shows you.

● This information box displays the numbers of viruses and programs that **UVK** can recognise – not to mention just how much software the programmer has!

```
--UVK Recognition Statistics--
917 Different bootsectors
57 Bootsector viruses
32 Anti-viruses
5 Link viruses
4 Harmless file types
76 Special applications
-----UVK Repair Statistics-----
466 Different bootsectors
```



Virus Terminator too

Ultimate Virus Killer v5.3

MACHINE: ALL STs, HIGH AND MEDIUM RES

PRICE: £9.99

FROM: DOUGLAS COMMUNICATIONS

CONTACT: 061 456 9587

You'd be surprised just how easy it is for disks to get infected. Viruses can only get into your system from another infected disk, but even commercial programs have been known to contain viruses, so you can't be too careful. (For a full rundown on viruses, what they are and how to deal with them, see the special feature in STF 26. If you missed that issue, turn at once to page 62.) One particular virus killer has become the leading package in this field – so its name is appropriate: the *Ultimate Virus Killer*. An earlier version was yours on Cover Disk 26, and the latest release contains even more features.

So what can **UVK** do? It recognises virtually all software that uses the disk bootsector, recognises all known ST viruses (both Bootsector and Link viruses), can repair previously damaged bootsector software, immunises disks and files against both kinds of viruses, can repair damaged or destroyed BIOS Parameter Blocks, recognises hard, floppy and RAMdisks, recognises any known viruses already system-resident, has on-line help screens, an automatic calculation of a "Virus Probability Factor," can save potential viruses to disk to have them analysed, and boasts full compatibility with any ST or TT, any ROM TOS and any known hard disk driver. Actually, it does some other things too, but sentences that long are not allowed.

UVK comes supplied on a single-sided floppy, and the manual is on disk

as a textfile. The program is menu-driven at all stages, and you can get up and running easily. There are three main features:

① **System Status.** **UVK** checks your ST's system variables and memory contents, and ascertains whether any bootsector virus is present, detects any reset-proof programs, and gives a rundown of other information, including TOS version, memory size, and the like. Any "suspicious" system variables are highlighted. **UVK** recognises over 70 legitimate memory resident applications which may show up.

② **Search and Destroy Viruses.** This searches for viruses on any floppy disk. **UVK** recognises 57 Boot viruses and 5 Link viruses – every ST virus known, it says here. Having made the check, **UVK** displays a variety of messages on-screen, depending on the outcome, and if a virus is found you can destroy it.

③ **Repair Disks.** This option enables you to repair the bootsectors of disks that may have been accidentally damaged by trying to deal with viruses using **UVK** or other similar utilities. The bootsector repair data for 466 programs is supplied with **UVK**, and this is added to with each update.

UVK is a great little utility, and it gets better and more comprehensive with each release. Don't boot up without it!

PETER CRUSH

STF RATING: 80%



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Arcshell Ver 3.1

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Any disks with prices in brackets are either licenseware or multiple disk sets. All disks will only run on a COLOUR system except: 'H' = high resolution monitor only. 'A' = any monitor suitable.

ART AND GAMES

BU76 - Clunk - Puzznic clone (£2.95)
BU81 - Dead or Alive - brilliant adventure game (£2.95)
BU84 - Hyealos - skill and strategy game (£2.95)
BU89 - Horse racing simulation (£2.95)
BU91 - Flipped - very hard puzzle game (£2.95)
ART35-37 - In Bed with Madonna 3 disk (£4)
BU78 - Clacker - Klax clone (£2.95)
BU83 - Cyberstorm - excellent Defender clone (£2.95)
BU86 - Quattris - similar to Tetris/Sirne Nemesis (£2.95)
BU90 - Match-It - Shanghai clone (£2.95)
COM25 - Football Genius/Super League Soccer (£3.95)
ART51 - Crack Art - better than Neochrome!

EDUC 13-15 THE DEATH OF A PRESIDENT. A 3 disk pack investigating the death of JFK.
Contains digitised photos, audio recordings and a wealth of textual information. £4

GAME 6 - Scanner, Bridge-It, Darts, Mister Packy, Tunnel Vision, Air Warrior (flight simulator)
GAME 13 - Wizards Tower, Tomb of Death, Invasion (STAC adventures)
GAME 17 - Room (brilliant shoot 'em up), Snatch & Crunch, 1st Serve Tennis, Video Poker, Labyrinth
GAME 21 - Hanoi, Hero (Gauntlet clone), Sensori, Pente, Millipede, Wormwar, Jigsaw
GAME 44 - Skidpan (overhead car racing), Haunted House, Pop Music Challenge, Techmate Demo
GAME 62 - House of O's, Lottery, Mold 1, Underground (adventures)
GAME 63 - Treasure Search, CoreWars (a battle of the programmers!) - This disk is not STE!

EDUCATION (Shoestring software is mainly for children)

SHOE 1 - Robot Attack - tests times tables (£2.95)
SHOE 3 - Picture Mix - rebuild jumbled pictures (£2.95)
SHOE 5 - Alphabet Mix - rebuild jumbled letters (£2.95)
EDUC 8 - Spelling Made Easy, The Search - Historical
PRO 26 - Early Learning Maths (£3.95)
SHOE 2 - Moon Letters - spelling with a difference! (£2.95)
SHOE 4 - Robot Words - Hangman (£2.95)
SHOE 6 - All blocked up - great maths game! (£2.95)
EDUC 9 - Computer School 2 and 3, Bodyshop
Pro 27 - Early Learning Maths 2 (£3.95)

APPLICATIONS & UTILITIES

BUSI 2 - Sheet 2, Home Accounts, Dbase One 'A'
UTIL 3 - Almanac, Treasuresaver, Biomorph, Plotter 'A'
UTIL 10 - Printing Press v3.0, File Tool 'A'
UTIL 13 - German to English, Backup, DC Utils 'A'
PRO 20 - Video Master - superb video titler (£3.95)
BUSI 3 - Fastbase - incredibly powerful database 'A'
UTIL 4 - Pools v2.5, Norad, DC Utils and more 'A'
UTIL 11 - Pagestream Font Editor, Fastcard 2 (1Mb) 'A'
UTIL 14 - Full of printer drivers inc. Bubblejet 'A'
PRO 23 - Video Master Fonts Disk (£3.95)

BUSI1 - Invoice and statement generator 'A', Nomenclature (database) 'A', Sales controller 'H'
UTIL 15 - Tons of misc utilities including copiers, formatters, virus killers, directory listers, diary etc. 'A'
LANG 13 - Tim Oren's Guide to Professional GEM in C - tutorial, source code and utilities
LANG 24 - C Adventure Toolkit v2.0 - very powerful language for creating large, complex text adventures.

SOUNDTRACKER MODULES

All Soundtracker disks come with the ESION player program for both the ST and the STE.
Those marked E are STE only.

TRAC 6 - Tune One, Art of Noise, Chartmix, Deadlock, Dragnet, Rainbow, Popcorn, Wonder Chicken
TRAC 11 - Clothes, Complica, Endtheme, Hi-energy, Hunters, Jackdance, Scratch, Magic, SLL9
TRAC 20 - Allair, Blumman, Clutch, Disco, Einstein, Megamix 88, Shortph, Symphace, Song, Flash 4
TRAC 40 - All, Celtic 2, Creative, Evolution, Frog, Kreuger, Lost, Trilogy
TRAC 49 - Berry, Close, Depress, Doc II, Eagles, Eg, Enemies, Eison, Going, Goodlife, Hdance, L-around 'E'
TRAC 50 - Got-ya, Home, How-deep, Intuition, Jaw, Jumping, Killer, Link, Night, N-speed, Official 'E'
TRAC 74 - Brain, Diddop, Lamer Tune, Mast serve, Power Rockpebb

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ST Applications

Over two years ago New Computer Express described our newsletter: "To call it a newsletter shows a terrific amount of modesty on their part...It really is packed with information, with more concentration on the serious side of the ST." ST Applications is a complete re-design of The ST Club Newsletter that has grown to 3,500 subscribers since we started it four years ago. Each monthly issue runs to at least 60 A-4 pages. If you would like to subscribe or receive an evaluation copy please complete the form below.

Fontkit Plus 3.

The essential font utility for the ST. Edit or create GEM fonts, Signum fonts, screen fonts and downloadable printer fonts. Incorporates a suite of drawing tools, plus block manipulation tools, and it will import Calamus, Degas and Macintosh fonts. Price £19.95

UIS III

Powerful replacement for the Atari Item Selector. Universal Item Selector III incorporates a host of utility functions: format disks, copy, move and rename files and folders, create folders, find files, set file paths etc. "You'll wonder how you ever lived without it", ST Format, December 1990. Price £19.95.

The Catalogue

Our collection of PD and Shareware disks runs to over 2,000 disks and we guarantee same day dispatch on all orders. Our Free Catalogue - (46 pages A4) details these disks and all of our products and services: Books, Budgie disks and laser printing. We also publish: Astronomy Lab (£19.95), Key Master (£6.95), Oxford Chess (£9.95), Molgraph (£12.95), Guides to Timeworks DTP (£9.95), and 1st Word (£6.95). Details of these are in our current catalogue. Write or telephone for your copy today.

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and free box of disks and mouse mat.

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1 Meg 5.25" External£99.00

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Unbranded 3.5" disks, box of 10£8.00
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Atari Mouse£19.00
Naksha Mouse + Software£24.00
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The book of the game

The Game Maker's Manual

FOR: ALL STOS AND ST BASIC OWNERS

PRICE: £12.95

FROM: SIGMA PRESS (ISBN 1-85058-158-4)

CONTACT: 0625 531035

This 280-page book is a comprehensive guide to designing and programming games using both STOS and ST BASIC, although it leans heavily towards STOS in its examples. It is aimed at moderately experienced users of BASIC – the newcomer to BASIC programming may find himself slightly out of his depth.

The book starts by stressing that you must design your game completely from start to finish before you sit down and enter a single line of code – writing a general outline of the game's objectives can save an enormous amount of trial and error. This ensures that you know exactly what you are trying to achieve before you start. One of the worst methods of programming is to make it up as you go along.

Various game styles are covered, including shoot-em-ups, sports simulations and text and graphical adventures. Also described in some depth are the differing programming techniques required for each type of game: sprite collisions for shoot-em-

ups, text parsers for adventures, 3D object design and movement, sprite movement, background screens, using sound samples, setting up control panels and so forth. Finally the author describes the method of creating extra commands for STOS BASIC by writing extensions in assembly language – this section is definitely not for the newcomer to BASIC programming!

All in all, this book is an excellent introduction for the slightly more advanced BASIC programmer. It covers each subject in detail, with example programs to type in and try out. It would have been useful if the book included a disk containing the example programs.

CLIVE PARKER
STF RATING: 78%

● If you want to write games and know some BASIC, this may be for you.



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● The main control panel for Stereo Master is well laid out, and the icons for each function are nicely designed and easy to remember. Samples can be recorded on the left or right channel or in stereo.

Delightful sampling

Stereo Master

MACHINE: ALL STs, LOW RES

PRICE: £39.95

FROM: MICRODEAL

CONTACT: 0726 68020

Sound sampling used to be the domain of rich musicians and recording studio operators, but the ST has made sampling affordable for all, using low cost add-ons. The latest in a range of such devices comes from Microdeal, the acknowledged experts in budget sampling. Stereo Master is a small grey box which plugs into the ST's cartridge port, and instead of the usual input and output sockets it is equipped simply with a 3.5mm stereo jack input socket – all output is via the ST's monitor port or the phono sockets on the STE. Unprepossessing as it may appear, Stereo Master contains a two-channel 8-bit analog to digital convertor, enabling it to receive a stereo audio signal and convert it to a digital sample capable of being processed, replayed from your ST and stored on disk.

Any suitable low voltage source such as the output from a tape recorder or CD player can be connected to the sampler, but the 44-page manual rightly cautions against plugging in the outputs from power amplifiers and the like. You control the sampler with the software supplied, which runs in low resolution only, so there are no knobs or buttons to fiddle with on the hardware, making setting up very easy. You can access all the usual sample editing functions via icons, including volume control, filtering, cut and insert, overlay, fade in and fade out. The input sampling frequency can be adjusted between 3MHz and a very crisp 27.8MHz. The length and frequency of samples are determined by your ST's available memory – but stereo samples, logically enough, take twice as much memory as mono samples and a 520ST can soon run out of RAM.

To set the correct input level – important for obtaining a good sound sample – the Stereo Master software has an "oscilloscope" feature. Adjust the volume on your CD player or hi-fi and you can judge the optimum level by watching the display on-screen and get-

ting the waveforms to within the recommended limits. Once this is right, you can "record" by simply clicking on the Record button – all the controls are laid out like those on a VCR or tape deck. Rather than start recording straight away, you have the option to set a volume level which triggers recording to start automatically.

The recorded sample is in stereo format no matter what ST you have, but if you have an STFM you can only hear it in mono – for full stereo you need an STE connected to a monitor with stereo speakers or a hi-fi. Alternatively you can always use Microdeal's Playback adaptor (£29.95), which has stereo outputs to connect to a hi-fi, thus giving full stereo on any old ST. This does however mean turning off the ST, unplugging the Stereo Master cartridge and plugging in the Playback cartridge.

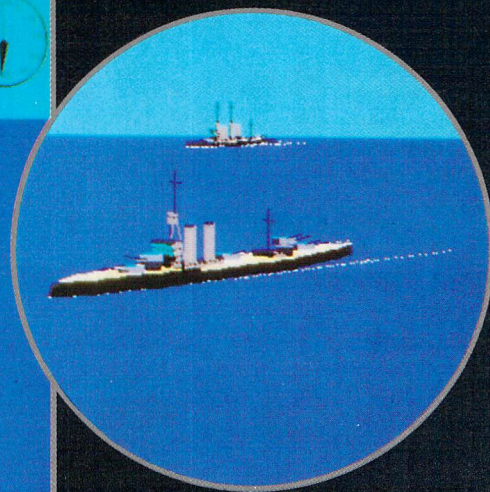
In addition to recording your sample, you can manipulate the sound with effects like Chorus, Echo, Reverb and Phasing. These and many others can be applied "live" in real time – but unfortunately they can't be applied to any samples already in memory. They are really quite remarkable in quality, and cheaper than buying a guitar effects pedal! The software also enables you to examine the waveforms of your samples by zooming in on them, or by displaying a FFT frequency analysis plot. MIDI freaks can set up different samples to be played via any MIDI keyboard, or these can be triggered from the ST's Function keys. Full details are included in a first rate manual to enable programmers to use the samples within their own BASIC programs.

There are obviously limits to what you can do with such a low priced unit, but the software is well-written and the manual is so easy to follow that even a beginner should quickly master it all. As an introduction to sampling it is a fantastic 40 quid's worth of fun.

PETER PARKER

STF RATING 77%

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Programmer: **Dr Peter Turcan** – the author of *Waterloo* and *Borodino*

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French polish

A few French journos have been busy putting together their ideal word processor, *Redacteur 3*. It could make their English competitors hopping mad, as Peter Crush discovers



Redacteur 3

MACHINE: ALL STs – high and medium res only

PRICE: £119.00

FROM: THE ST CLUB

CONTACT: 0602 410241

In France, *Redacteur 3* is the zippy word processor with some 7,000 users, and has realised a kind of cult status among certain ST pros, who have been using the foreign versions up until now. It was written and used by a group of journalists working on certain French newspapers, including *Le Liberation*, hence its default filename extender is .LIB! So then, how does this much heralded package measure up to its British counterparts? First

impressions – going by the packaging, at least – are impressive. It looks classy, having a full colour box, a 650 page manual and four program disks. *Redacteur 3* is a big program – you need a minimum of 1MByte of RAM to run it and a double-sided disk drive. It runs on the TT, and supports the usual high and medium resolution monitors plus large screen mono monitors. A second floppy drive is recommended though a hard drive makes life really easy. The first task (after backing up the program disks) is to configure the software to suit your system – setting up which disk drives, monitor and printer you are going to use. You do this using the supplied installation program, which also enables you to specify which dictionaries and other supplied utilities are accessible directly from within the program. The contents of the distribution disks have been com-

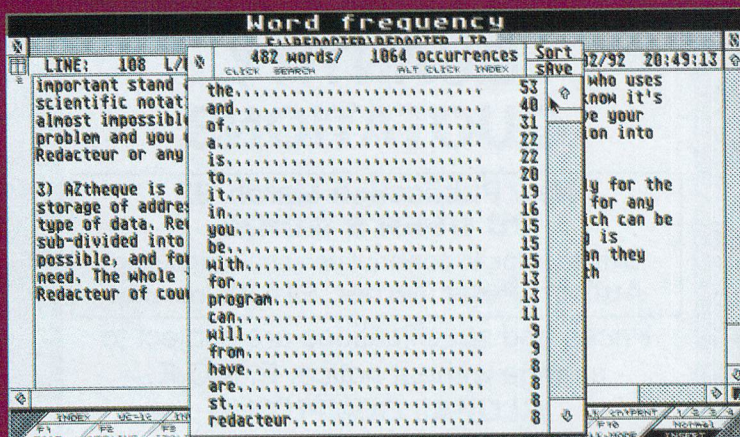
pressed, fitting over seven disks worth of files onto just the four. The installation process automatically extracts the data and writes it to either your floppy or hard drive.

As usual, you open the program by double-clicking on its name or icon. When it runs, *Redacteur* presents you with a fileselector of its own design, with continental flavour logos and icons. Text from almost any source can be loaded in directly, without having to go through lengthy external text conversion procedures as you often have to with other word processors – handy if you have text files from various software, you don't even have to know what they are, just load them in! The files retain virtually all their important attributes in the near instantaneous conversion process. Text is obviously saved in the *Redacteur* .LIB format by default, but can also be saved in most other ST word processor formats – a very useful feature, particularly for professional writers. Multiple rulers can be set up – in fact, each paragraph can have its own style, size and font of text. Line lengths and tabs can also be set up speedily, enabling you to restyle a whole paragraph, or the entire text, with a few clicks of the mouse button.

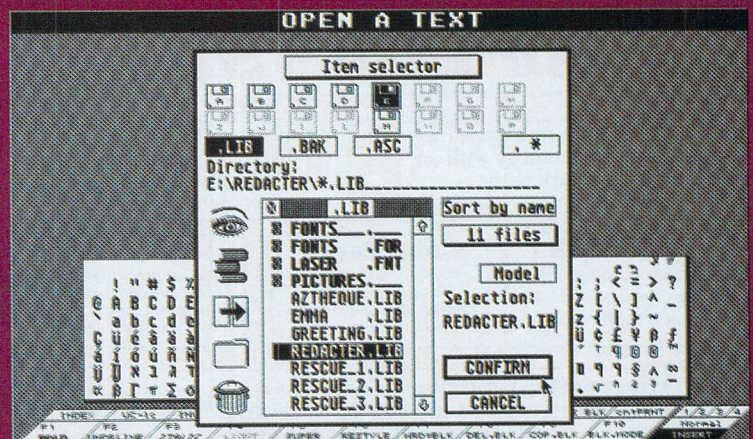
The general "feel" of *Redacteur 3* is a cross between *1st Word/WordPlus* – with their friendly GEM interfaces – and *Write On/That's Write* with their more powerful paragraph and graphics features. *Redacteur 3* uses standard GEM – the familiar resizable multiple windows and drop-down menus making it a doddle to use straightaway. The speed of the program has to be experienced to be believed – it is

GALLIC GEM, GREAT GRAPHICS

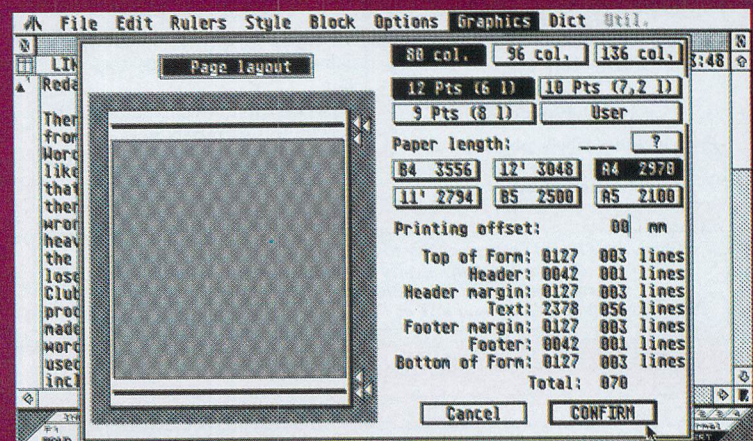
With so many programs straying off the straight and narrow path of pure Atari GEM, it's reassuring to find *Redacteur 3* using this well-loved standard to great effect without pretending to be PC-contemptible or Mac software. And somehow, Epigraf have managed to make the whole thing work at breakneck speed! Take a look over *Redacteur 3*'s features and see the best bits of other word processors combined into one.



● The word analysis feature shows you how many different words there are in your text, and that you have used "the" 53 times – a popular word, that.



● *Redacteur* has its own fileselector – those funny-looking icons actually perform useful functions – and it's much better than the standard Atari selector.



● Page layout can be previewed graphically. This dialog box enables you to set up the spacing of your headers, footers, top of page margins and so on.

almost too fast! Scrolling through text is even faster than *Protext*, so be careful with <Delete>! Although *Redacteur* uses monospaced screen fonts to achieve its speed, it supports the use of proportional GEM fonts when printing out in the optional graphics mode, and does not use GDOS.

Like *Protext*, *Redacteur* is incredibly powerful, and contains many more features and capabilities than most people would ever need. Some of the

Menu options have cascading sub-menus of their own, and most parameters can be configured and changed as you wish from within the program. Unlike *Protext*, *Redacteur* is able to handle graphics – you can import your bit mapped or vector pictures in 16 file formats – they appear on-screen and you can then move and crop them as you normally would with a desktop publishing package using the mouse pointer. **stf**

REDACTEUR 3 – THE LOW DOWN

£119.00 The ST Club ☎ 0602 410241

FEATURES: 90%

Brimming with features, and combining many of the best bits of other word processing programs into the one package, it does lack an English Thesaurus and Outliner at present – but these are coming soon and will make it formidable.

SPEED: 95%

How come GEM is so fast? On short documents especially, the cursor whizzes about almost too fast for comfort. All reformatting of text and so on is virtually instantaneous.

EASE OF USE: 87%

For such a powerful program, it's remarkably simple to work with. All operations are logical, there are no difficult concepts to grasp, and the manual is very well written and laid out.

RESULTS: 90%

The results are excellent, and are good enough for almost any writing task you could imagine. The *Redacteur* manual was entirely produced using the software, and looks most professional.

THE COMPETITION:

That's Write, STF Rating 82% (£99.95, Compo Software, ☎ 0480 891819) This well received word processor is about to be replaced by v2 – watch out for the review soon in *STF*. *Calligrapher Pro*, STF Rating 85% (£139, Working Title, ☎ 0865 883592). The only word processor to use outline fonts on-screen, almost DTP power – it's better described as a document processor. *Protext 5.5* STF Rating 95% (£149.95, Arnor, ☎ 0733 68909) The journo's' current favourite for fast, text-only writing, *Redacteur* could provide a serious challenge.

STF RATING: 90%

In an overcrowded market, a new ST word processor has to be extremely good to be able to make its mark. *Redacteur 3* is excellent – it has the speed of *Protext*, plus *That's Write*-like graphical features, but not the near-DTP qualities of *Calligrapher*. Although superb, none of these word processors are cheap, so why not check out the Demo Disk of *Redacteur 3* (£1.45 from The ST Club) and try out the program yourself.

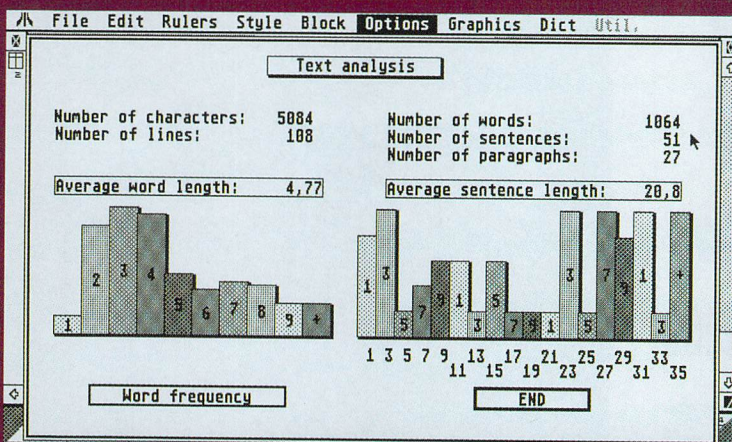
ON TOP OF THAT...

Three modular programs are also included free with *Redacteur 3*. They can be run from within the main program and be co-resident if you have enough memory, or otherwise used as separate applications.

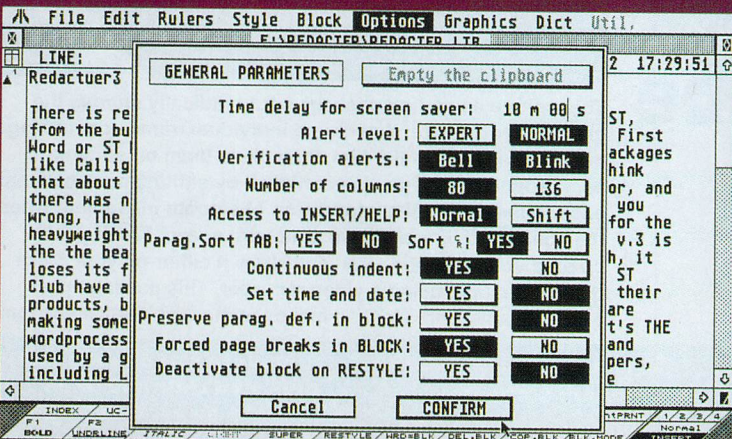
1 *Graph Print* enables you to use the graphical printing mode – use this instead of printing with the built-in fonts of your printer if you are outputting pictures or GEM fonts. Control is fine, you can even define the degree of thickening of bold characters, and the angle of slant of italics. This program was used to print out the 650 page manual – and a good job it made of it! A wide range of printers are catered for including all the expected ST favourites.

2 *Sigma* is a powerful editor/creator of mathematical formulae, and with its sets of symbols and fonts, it would rank highly as an important stand-alone application in its own right. Anybody who uses scientific notation and complex formulae in documents knows, it's almost impossible to do this with just a word processor. *Sigma* solves this problem – you can save your work as .IMG files for inclusion into *Redacteur* or any other program.

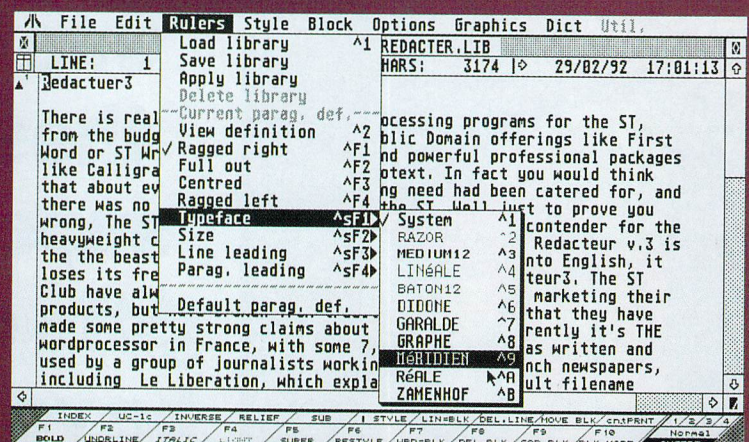
3 *AZtheque* is a database designed for storing address lists, but can be used for any type of data. Records can contain 14 fields – and 13 can be sub-divided into 13 other fields! Indexing and sorting is also possible. It's all designed to enable mail merging with *Redacteur*, but does more. A handy bonus!



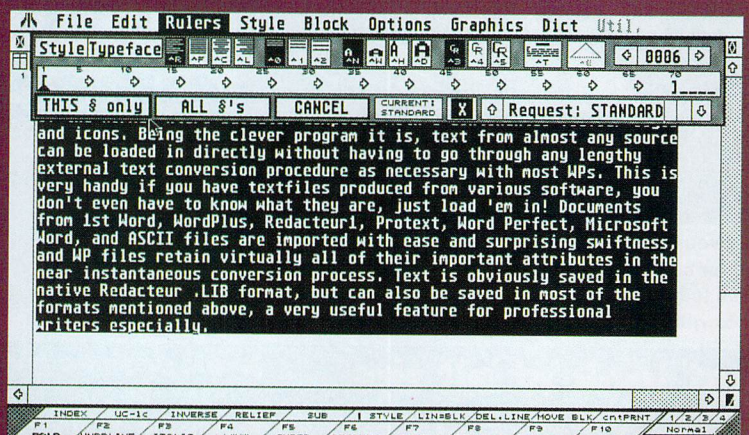
● Very fast analysis of your text is produced graphically – check out how long your work is, the average length of sentences and words to improve your style.



● Typical of the countless user-configuration options possible at the drop of a hat, the GEM dialog boxes make everything easy to understand and adjust.



● Cascading sub-menus in *Redacteur* – you move the mouse pointer over to the right-hand side of some drop-down menu items and a further sub-menu appears.



● You can set all the attributes of the highlighted paragraph from this Ruler setting – note the graphical representation of the "ragged right" justification shown.



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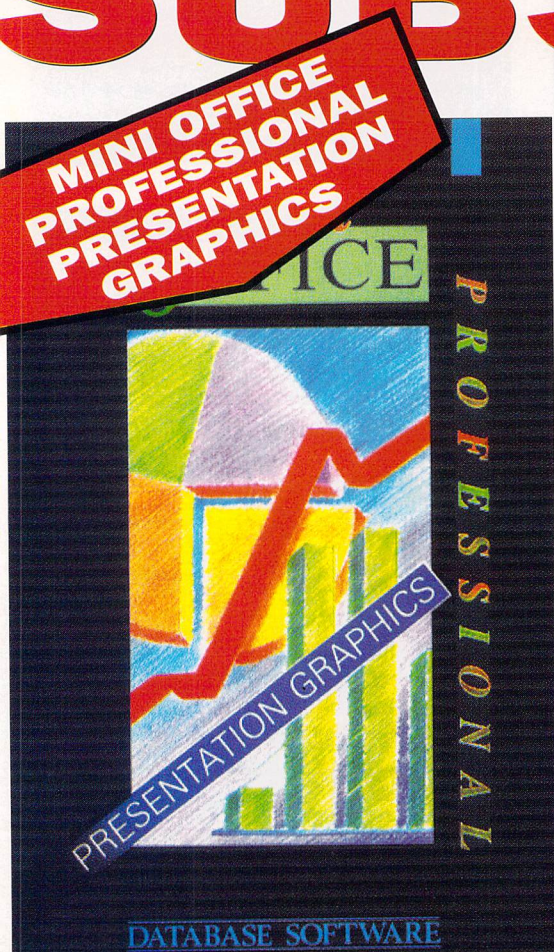
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September 1991

Disk: *Ultimate Virus Killer*, *Magic Pockets* demo, TOS 1.4 fixes and a swag of utilities
Inside: Protecting your ST from viruses, how STs are being used to produce TV ads and business cards, Calligrapher reviewed

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August 1991

Disk: *Mega to mania* demo, *Flexidump* printing program, a diary utility and more
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July 1991

Disk: *Acornino* demo, *Llamatron* complete game, a better file-selector and more
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ISSUE 23

June 1991

Disk: 15 programs - 3D *Construction Kit*, *FezFender*, American Football game, seven invaluable utilities
Inside: 3D secrets revealed, top ten 3D games, complete guide to ST communications

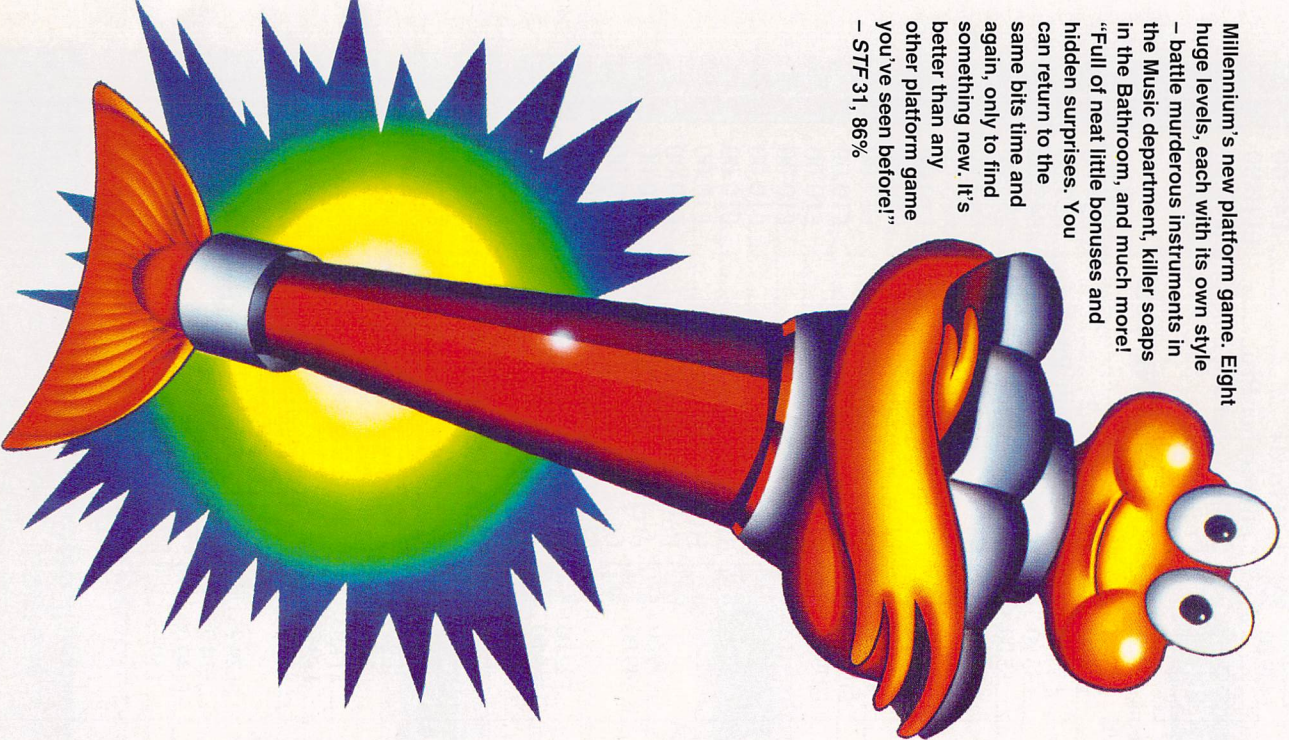
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- STF 31, 86%

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– including how to beat your favourite games**

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100
ST TIPS

Tips? Tips? You want tips? Hell, we got tips. We got tips on everything here – everything, mate. Hard drives – they're in there. Graphics – check. GFA problems – hundreds of 'em answered. Printer stuff? Yep. Starter motor on your Morris Minor not working? Get a new car. See, it's all answered here somewhere...

THE ICONS – where to find the information you need

BEGINNERS



Newies start here. We explain all those confusing terms, techniques and foibles which the manual conveniently forgets to mention, in a way you can understand.

HARD DRIVES



Don't know what a hard drive is? Can't get one connected to your ST? Like to know what SCSI and FAT mean? Well, hey, we might just have the answer here.

COMMS



It's all baud, RS232 and parity, but we can explain what all those stupid terms actually mean, how to get connected to a BBS and what to do when you're there.

PRINTERS



"But it isn't printing anything!" comes the plaintive cry. Boy, do you need this section. How to get connected, what control codes do, how to dump a screen.

DISKS



Disk drives are easy, right? Plug 'em in and away you go. But what happens if you get problems? You look here. Upgrading, access rates, recovering files...

PROGRAMMING



STOS, GFA Basic, C, assembly, Pascal, ADA, Cobol, Lisp, Logo, Fortran, Modula-2 and possibly even ST BASIC explained in this bit. (Except we lied about ADA.)

GAMES



Also known as Gamebusters, a mine of useful shortcuts, cheat modes, maps, hints, tips, and many, many tired old jokes. It's the ST gameplayer's Nirvana.

SOUND



MIDI's here. So is sampling. Don't know which music package to buy? Want to link up your ST to your hi-fi? Step in and all your Terpsichorean troubles are over!

GRAPHICS



Why do you need two monitors? Why can't you get colour output from your colour printer? What's the best graphics package? Dunno. But this section does.

ST PROBLEMS



Problems with hardware (your ST), software (things your ST runs) and wetware (what happens to your brain when the hardware refuses to run the software).

SPECIALS THIS MONTH

(Everything must go)

QuickDisk RAMdisk problems sorted out once and for all page 66

More STOS answers than you can shake a French programmer at page 74

Recovering from a locked-out hard drive made easier page 75

Disk-filling corrupted files – how to spot them, what to do with them and how to remain calm page 78

Why MIDI will never be the same .. page 80

Assembly programming tips from a man who's been there page 85

Another World completely and utterly – er, completed. We tell you how page 86

Complete codes for Oh No! More Lemmings, for the first and last time page 89

Knightmare mapped page 90

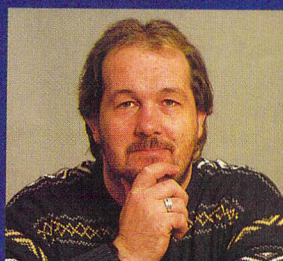
MEET THE ST FORMAT TEAM OF EXPERTS

Well, we say experts... No, really, these people know what they're talking about. It's just that no-one else does.



ASA BURROWS

Rumour has it that when he was at school, Asa did A-level English, Maths and STOS. And he failed two of those. We think you know what we're saying here. (Please don't sue us, Asa.)



BARRIE CAPEL

Barrie's fluent in GFA Basic – so fluent in fact that sometimes he forgets himself and signs his name FOR NAME%=0 TO 15: NAME%=NAME%+1: POKE (OS%+1), NAME%: NEXT NAME% instead. Oh well.



VIC LENNARD

Vic Lennard is not only president of the UK MIDI Association, he's also – um – well, he's very good at all that musical stuff. Give him a keyboard, an ST and a MIDI lead and he's a happy man (or so we're told).



CLIVE PARKER

Clive's a little shy about it, but he is actually the man behind all those chairs and pens. And those board games, too, we think. As a sideline he does a lot of work for charity – he's ST FORMAT's Technical Writer.



ED RICKETTS

Proudly boasts that he has no redeeming features whatsoever. He has been known to play the odd game or two, though, and does quite a good job of rehashing his joke every month for the games section.

ST answers

All your ST problems
solved, questions
answered, teeth re-

moved painlessly... Dr Parker and his team of experts get down to work

HIGH DENSITY DRIVES



In ST FORMAT 30 you described the drive controller chip, which you stated would run a 1.44MByte floppy drive. Is this correct? If I replace the internal floppy with a 1.44MByte drive will it operate with no modification? How much does a 1.44MByte floppy drive cost?

Timothy Forristal, Lancaster

stf: The ST's WD1772 floppy disk controller cannot drive a high density disk in 1.44MByte mode without hardware modifications to your machine, although it can run the drive as if it were a 720K floppy. To use the drive to its full capacity, you need both an increased clock speed of 16MHz and a change in the step rate of the drive. We brought you details in issue 32 of the modifications needed, and there's more important information in the box below. However, even with these modifications, there's a chance that your drive controller isn't up to the job and is going to burn out anyway. Remember that the WD1772 is only guaranteed to run at 8MHz – any increase in clock speed could destroy it. A complete high density drive upgrade kit including a replacement controller is available from System Solutions (☎ 071 252 7775) for £99.95.

PRINTER MANUAL REQUIRED



I have bought a Star NL-10 printer second-hand, but there was no instruction booklet with it. Where can I get one?

Steve Harper, S Humberside

stf: Phone Star Micronics ☎ 081 840 1800 and ask them for the one you need.

A FEW MORE BITS REQUIRED



I currently own an 8-bit sampler, but I would like to upgrade to a 16-bit one. Which would you suggest is the best buy? Sound quality rather than features is the most important thing.

Tony Bennett, London

stf: The Pro-Series 16-bit Sampler (£350.00 from Audio Visual Research ☎ 0582 457348) earned a FORMAT Gold rating of 94% in STF 25. The package compares favourably with professional hardware but is a fraction of the cost and can sample at several rates up to 44.1KHz, which gives you CD-quality samples. You need 1MByte of memory in your machine to use the package to its full capability, although it can run on a 520ST, and also supports the STE's extended audio capabilities. At present there is nothing else on the market that offers 16-bit sampling for the ST.

LET YOUR FINGERS...



I have a problem with the Diary program from STF Cover Disk 25. When I go to the "yellow pages" section and put my own addresses in the program it's fine. But when I load up Diary again and go to the yellow pages, a message box says: "End of file reached – PC<\$000000." It won't let me into my own address book!

Luke Champion, Gloucester

stf: We have been unable to duplicate this problem on any of our machines. Re-install the program from your Cover Disk onto a blank disk and configure it following the instructions on the



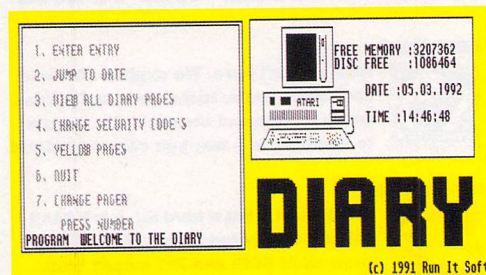
The ten steps to

I am trying to use the RAMdisk program QuickDisk from ST FORMAT Cover Disk 31, but despite reading your instructions over and over carefully, no matter what I try to copy into disk M, I get the following alert: "This application cannot find the folder or file you just tried to access."

Kerry Norman, London

stf: You can't move files to your RAMdisk because it has not been installed correctly. Assuming you have a single drive, follow these steps to set up the QuickDisk Accessory from Cover Disk 31.

① Make a backup copy of your Cover Disk as described on page 30 of STF 31. Put your original Cover Disk in a safe place and write-protect your backup by sliding the



● The Diary program from STF Cover Disk 25 in all its glory. We couldn't find any problem – except for that lovely shade of yellow...

Disk info pages in ST FORMAT 25. If you follow the instructions you should get the program running without any further problems. Have any other readers experienced this difficulty?

FILE COPYING MADE EASY



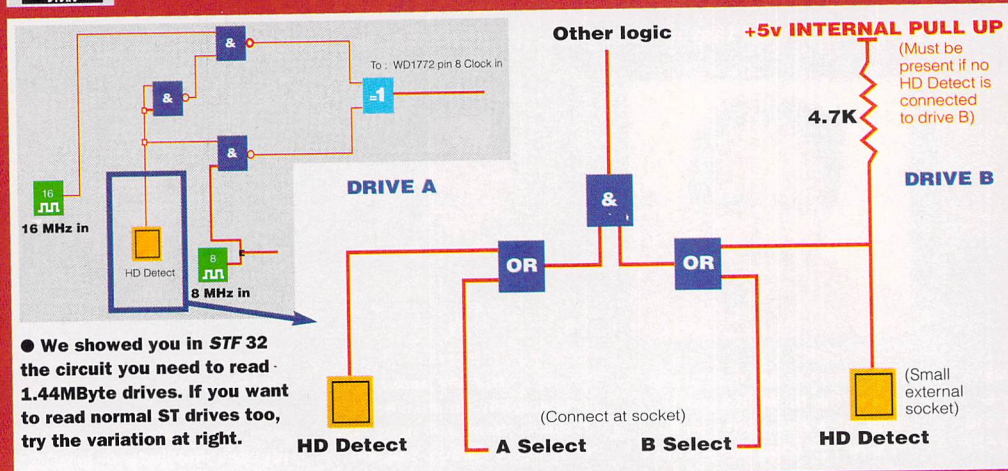
I have a 1040STF but I have a couple of problems.

① After I've copied a file by dragging it onto an icon, when I try to access the new file I get the error message "Stop – TOS error no. 35." What have I done wrong?

② When I return to the original disk, although the



How to make an ST mega-drive, part four



HIGH DENSITY DRIVE MODIFICATION



In ST FORMAT 32 we brought you details of how to modify your machine to use high-density disks – the sort capable of storing 1.44 MBytes of data on each floppy. Charles Allen of Bournemouth has written in to point out that the circuit diagram we printed is incomplete and of little practical use for two reasons.

① The main diagram at left gives details of modifying the circuit to make drives A and B work independently of each other, enabling files to be copied between double-density and high-density drives. Drive B can then be either a double- or high-density drive, with drive A as a permanent high-density drive. Both the high-density detect and the drive select line on

(RAMdisk) heaven

black tab so that you can see through the hole.

② Format another blank disk, then remove it from the drive. Keep this disk write-enabled – leave the tab so you can't see through the hole.

③ Put the backup copy of your Cover Disk into the drive and double-click on the Drive A icon, then on the RAMDISK folder so that you can see a window showing the three files inside.

④ Move the mouse pointer into the window and click and hold down the left mouse button. Keeping the button held down, move the mouse until you have drawn a box around the three files. They now turn black or "highlighted." Release the mouse button.

⑤ Click and hold down the mouse button over one of the files, then move the mouse pointer to the Drive B icon on

the Desktop.

⑥ Follow the screen prompts until all the files have been copied to your blank disk. Remember that the disk you are copying from is Disk A, and the disk you are copying to is Disk B. If you have write-protected your backup of the Cover Disk, you can't really go too far wrong.

⑦ Put away your backup Cover Disk and put your new disk with the files on into the drive. Restart your machine by pressing the reset button (or if you have an STE pressing <Control>-<Alt>-<Delete> at the same time).

⑧ The Desktop now reappears. Click once on the Drive A icon so that it becomes highlighted. Move the pointer to the Options menu and click on the Install Disk Drive option. Change the Drive Identifier line from A to M and then change the Icon Label line to RAM Disk. Now click on

the Install box. A new Drive M icon now appears on the Desktop.

⑨ Move the mouse to the Desk menu and select the QuickDisk option. A box opens with several options in it. Select the capacity you require for your RAMdisk and then click on the install button. You now get a message saying "Ramdisk Installed as Drive M."

⑩ You can now move files to Drive M and back from it, exactly as if it were another floppy disk drive. But remember: you must save any data you want to keep to a real disk or hard drive before you switch the power off!

● Another point you should always check: a Desk Accessory NEVER works if it is inside a folder. It must ALWAYS be in the root directory of a disk – the first level you see when you open a disk window.

file is still showing up as present I get the error message "This application cannot find the file/folder you are trying to access." Has the fact that I'm using a black-and-white TV any bearing?

③ I've been given a copy of a word processing program called Pen-Pal. I was told it was compatible with my ST even though it was for an Amiga (horror) machine, but it's obviously not – I cannot access it on my machine. I have been told I can transfer it to the ST using Fastcopy 3 – what is this and how do I do it?

④ I believe there is an Atari Manual 2. I find the Atari manual useless, so would it be any use getting that?

⑤ How do I go about installing the New Word Desk Accessory? I just cannot seem to get it to work although I have installed other Accessories with no problems.

Elaine Foskett, Staffs.

stf: ① The TOS Error 35 message is an odd one. Its official designation is "too many files open," but you tend to get this error message when attempting to read corrupted files. You don't say whether you're dragging the file to a disk icon, a folder icon, or something else. These two are the only icons you can drag files to – you cannot drag files to program or data files. Try opening a window to drag files to rather than dragging to icons. Use the View menu on the Desktop to show programs and

files as text instead of icons – this gives you much more information about the files.

② You are most probably getting this error message either because the file has been corrupted or the ST has not read the disk's directory. To read the directory of a new disk when you have inserted one, simply press the <Esc> key at the left end of the top row of keys. Using a black and white TV has no effect on the operation of your machine.

③ Fastcopy 3 is an excellent PD utility for copying and formatting disks, available from all good PD libraries – and the new Fastcopy Professional is reviewed on page 55. However, it's not going to help here. Amiga games machine programs cannot run on any ST and cannot be transferred to an ST unless they're rewritten.

④ The Second Manual to the Atari ST is also available from the ST Club, price £7.95. It is aimed specifically at beginners and is highly informative. Or you could try the special beginners' features in STF 31 – it includes not just a complete guide to getting started but comprehensive roundups of the software and hardware worth getting as well, plus a crammed Cover Disk featuring ten essential utilities, all for only £3.75. If you missed it, turn to page 62.

⑤ Unfortunately the New Word Accessory (STF Cover Disk 31) does not work with some setups. Try installing it without any other Accessories installed in case it is clashing with them.

DIY HARD DRIVES 1



I have noticed that there are many hard drive kits, SCSI controllers and drives for the PC-compatible, apparently quite cheap compared to buying ready-made models. Are these kits easy to build and use, and how compatible are they with the ST?

Ebrahim Ali, London

stf: As long as you have a bit of practical knowledge and common sense, it is not a difficult task to assemble your own hard drive. The interface must be a DMA to SCSI host adapter to ensure ST compatibility. Gasteiner (☎ 081 365 1151) can provide a complete SCSI DIY hard drive kit (not including the hard drive) for £140. The kit consists of host adapter, power supply, case, ST DMA lead and SCSI lead. Host adapters are supplied with formatting software for a wide selection of drives. Prices start at

around £150 for a bare 32MByte SCSI drive if you shop around.

DIY HARD DRIVES 2



What is an ICD Hard Disk Interface? I have seen Apple Macintosh SCSI drives available for much less than ST hard drives – if I buy a Mac drive and the ICD interface can I build my own ST hard drive? Where can I get an ICD interface and how much is it?

Stephen Smith, Tyne and Wear

stf: There are 40MByte hard drives available for the ST now for as little as £299 – such as the Reference 40 drive from Evesham Micros (☎ 0386 765500). If you think that adapting a drive is going to save you money, then read on. The ICD interface is a DMA to SCSI adapter – it simply enables the ST to speak to any SCSI hard drive. You should be able to adapt a Mac SCSI drive without too much difficulty if you have some technical knowledge. You can get the ICD Advantage ST SCSI Host Adapter from System Solutions (☎ 0753 832212) for £69.

ST TO ARCHIMEDES



Is it possible to prepare text at home on my 1040 STE and then use it on the Archimedes at the school where my wife teaches? I know that the text has to be in ASCII format but how do I go about it?

P N Smith, W Yorkshire

stf: When the STE formats disks from the Desktop they are formatted to be PC-compatible, so you can save your ASCII files to disk and any PC can read them. (Any decent word processor can save text as ASCII.) This leaves the problem of loading the ASCII text into the Archimedes. There is a software PC emulator for the Archimedes that can read PC-formatted disks. It costs £116.33 and is available from Acorn dealers. Contact Acorn (☎ 0223 245200) for more details.

SERIAL KILLER



I have recently acquired a second-hand Silver Reed EXP 500 serial daisy-wheel printer, and I wish to use it with my STFM. The printer is fitted with a 25-pin

each drive must be low for the drive to work in high-density mode. If the B drive is double-density, when the drive select line of drive A goes high (deselected) the system automatically switches back to double-density mode.

② The second point is that the drive step rate has to be halved from 6ms to 12ms in order for high-density drives to step to the correct track. There are various utilities available in the Public Domain which can adjust the drive step rate – Disk UTI.62 (£1.45) from the ST Club (☎ 0602 410241) contains both program and Accessory utilities which can do this.

WARNING: Do not attempt any modifications to your machine unless you know exactly what you are doing. Opening the case of your machine automatically invalidates the warranty.

At Last Atari External Modulators

Do you own an Atari ST that has to be run from a monitor, but would prefer to run it from your TV in full sound and colour?

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→ female D connector. Could you please tell me if this needs a standard serial cable or is it a special?

H Hatchett, Middlesex

stf: A normal serial printer lead should solve the problem. If your local computer shop or Tandy can't supply you with one, contact lead specialists Meedmore (☎ 051 521 2202). However, some older STs have problems driving serial printers. There is an official Atari patch program to cure the fault, and you can get it from the ST Club (☎ 0602 410241) on utility disk UTI.125 (£1.45). Bear in mind that a daisy wheel printer can only give you text output – you may be better off buying a second-hand dot matrix printer capable of supporting graphics output as well if you're likely to need it.

SICK DISKS



There is something wrong with our ST. Many of our disks won't load at all. Sometimes a row of bomb icons appears on the screen or some writing comes up saying "Data in drive A may be damaged – please check your connection." I think there may be a virus in the machine but I'm not sure.

Simon Woods, Cambridge

stf: The error message indicates that either you have damaged your disks in some way or you may have a faulty disk drive. The good news is that it is impossible to have a virus in your machine itself – no virus can survive when you switch the power off and leave it off for at least 30 seconds.

Switch on the machine without a disk in the drive. This ensures that there is no virus getting into the machine from any of your old disks.



PC-contemptibles cause problems

PC ADD-ONS

At present I am running my STE using a newish colour TV. This is okay for playing games but it is rough on the eyes if you are writing programs or word processing. I have an IBM 4863 PC-compatible colour monitor. Can I attach this to my STE? If not, can I get a lead to connect the STE to my TV's SCART socket? Will this improve the resolution on the TV? I also have a 10MByte hard drive from an old 8086 PC. Will this work with my STE?

Reg Toilet, Rotherham

stf: No, you can't connect the PC monitor directly to your ST without internal modifications. But you can find STE to SCART leads in any good computer shop. If there are no suppliers near you, then you can order a suitable lead from Analogic Computers (☎ 081 546 9575) for £12.95. Make sure you state the make and model of your TV – some manufacturers do not follow the SCART conventions exactly. The image quality will be an improvement over normal TV output, although not as good as you'd get on a dedicated RGB monitor.

As to the hard drive, you need to find out what type of hard drive it is. If it is an old one it's most likely either an MFM or RLL type drive. To use it you have to buy a suitable case, a regulated power supply, a DMA to SCSI

Now try formatting some new blank disks and copying files back and forth between them. If you get the error message from new disks, then there's likely to be a hardware problem. WTS Electronics (☎ 0582 491949) provide a diagnostic service for £15. If there are no problems with the new disks, then put one of your old disks in the drive without turning off your machine and try to load a program from it. If you get the error message, then the floppy disk itself is damaged. It is always a good idea to use branded disks – although they may be slightly more expensive, you are less likely to lose data. Never store your disks on or near your monitor or TV because the data on them can be damaged by the powerful magnetic fields generated by any video display unit.

GFA USER MAGAZINE



I have been a keen programmer since getting GFA Basic on STF Cover Disk 19 but I cannot find much information on new routines and techniques. Could you please let me know the address of the GFA User Magazine?

Jon Smith, Chesterfield

stf: The original GFA User Magazine is no longer being produced. However, a disk-based GFA User Magazine is due to replace it in the near future. Any subscribers still owed magazines will be sent the disk version for the remainder of their subscription. You can contact GFA User by sending an SAE to 186 Holland Street, Crewe, Cheshire, CW1 3SJ. Of course, ST FORMAT's experts are continuing to cover GFA programming queries and techniques every issue.

host adaptor and a SCSI to MFM (or RLL) adaptor. By the time you have bought all this to create a useable 10MByte hard drive you'd most likely have been able to buy a new ST-compatible 20MByte drive for the the same outlay.

DOSSING ABOUT

I own a copy of the PC emulator PC Ditto, which you reviewed in STF 25. I am having problems obtaining a copy of MS-DOS which runs on this setup. I understand that the distributor was a company called Robtek in Isleworth but they are no longer there. I have tried three computer shops and not one could help me – even Microsoft themselves can only suggest MS-DOS 5, which I believe will not run. Anyhow, it costs £50 – more than the emulator is itself worth.

Pete Turner, Surrey

stf: The easiest way to get hold of an older version of MS-DOS would be to place an advert in a magazine with a second-hand software section. Be sure to state that you require 3.5 inch disks in double-density format and how much you are willing to pay. Versions 3.3 and 4.1 of MS-DOS are both compatible with PC Ditto and you should be able to get them for around £20.

FALCON WON'T FLY



Can you tell me why F-16 Falcon works perfectly on my friend's STFM but refuses to load the second disk on my 1Mbyte STE?

Dave Edwards, Colwyn Bay

stf: Unfortunately F-16 Falcon is one of the few older games that do not run properly on the STE because of the hardware differences between STEs and the older STFMs. Most ST games were modified to run on the STE when the new machine appeared, but Falcon was not among them.

DMA DOUBTS



I have an early STE which I believe is equipped with the allegedly faulty DMA chip (hard drive controller) you reported in your News pages early last year. I am purchasing a hard drive and I am worried that it may become damaged if I use it with my STE. How can I tell if the chip in my machine is a faulty one and how much would a replacement cost?

Dave Griffiths, Wirral

stf: There have been very few reported cases of the DMA chip problem. The simplest thing to do is to buy your hard drive and format it. Save and reload some picture files back and forth to the hard drive from an art package such as Degas or Canvas. If the pictures become corrupted on reloading, then this immediately indicates that there is a problem with your machine. In the unlikely event of this happening you can contact Atari (☎ 0753 533344) and they will replace the DMA chip free of charge.

FOUR PLAYER ADAPTER



I have a 1040STE and I am wondering how to connect two extra joysticks for playing four-player games such as Great Courts 2.

Thomas O'Donohoe, London

stf: Microdeal (☎ 0762 68020) supply a four-player adapter for £4.95 which connects to the parallel printer port.

SPECTRUM EMULATION



I have heard that there are Spectrum emulators available from Public Domain libraries. Is there any equipment which can transfer data from Spectrum tapes to ST disks? Where can I get an emulator?

Damian Carder, Sheffield

stf: At the moment there is no hardware available to transfer programs from the Spectrum to the ST. A very good emulator is available from Riverdene PDL (☎ 0734 452416) on disk 957 (£2.00).

DIY MONITOR FIX?



① I am having problems with my Philips CM8833 monitor – it makes a high-pitched whine when displaying pictures from my ST. It stops for a while when I bang the left-hand side of the monitor but starts again soon afterwards. How can I cure this

before I crack the case?

2 I am also having terrible problems with my Desktop. I keep getting multiple identical windows with the following displayed in the path line at the top: "A:\02 27 09," instead of "A:*.*". I can find nothing wrong with my DESKTOP.INF files on the affected disks, although I have edited the resolution byte and I am using the medium res fix program. Can you help out?

Ben Irwin, Sheffield

stf: 1 The monitor needs to be taken to an engineer to be serviced. Don't bang the side of it any more – you are likely to make things worse.

2 To solve your Desktop problem, erase all your DESKTOP.INF files from your boot disks. Reset your machine and set up your Desktop from scratch again, and once you're satisfied with it use the Save Desktop option. If you are using the medium resolution fix program, there is no need to edit your DESKTOP.INF file at all – you get a medium res Desktop automatically. Editing any file can cause problems and destroy data if you are not 100% sure of what you are doing.

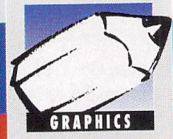
WHICH BASIC?



I would like to start programming with my STFM. Which BASIC language would be best for writing simple games?

A Noakes, West Bromwich

stf: STOS is the language you require. As well as being a very good implementation of BASIC for the ST, it is oriented towards graphics and sound commands. One of the advantages of STOS is that new commands can be added to the language by means of add-on modules called Extensions, the most recent of these being STOS 3D. (ST FORMAT has also featured STOS Extensions for the STE in recent issues.) Coupled with the compiler to create stand-alone programs, STOS should provide all the features



Drawing on our experience

Draw	Fill	Rename	Compact	1 C FP
Line	Rrc	Canvas	16C FP	
K-Line	Grid	Delete	1MB	Line
Rays	Block	Folder	Degas	Sprite
Box	Text	Info	Neo	3D
Ellipse	Spray	Format	Palette	HBLs
Polygon	Segment	Quit	Sequences	GridInf
Sprite	Brush		Load	Save
Mark	Zoom			
Fill Pat	None	Colour	6d-Lock	Rotate
	Pattern	Options	Window	Shadow
	Hatched	File	Animate	Undo
	1 Col FP	Printer	3 D Obj	Erase
Solid	16Col FP	Cursor	Regular	Rounded

● The original version of Canvas had a problem with saving Degas P12 (medium resolution) files. But never fear – it's STFM to the rescue again! See this issue's Cover Disk for the updated, corrected, improved and even better version!

CANVAS PROBLEMS

Having drawn a logo using Canvas in medium resolution, I tried to import the file into 1st Word Plus and was informed that it was not a recognised file. I tried



Let me have that on paper – please!

COLOUR PRINTING WITH 1ST WORD PLUS

I have a Citizen Swift 9 colour printer and I am wondering if it is possible to use it with 1st Word Plus. The printer can emulate Epson FX850 and IBM Pro Printer 3 modes, so can I output in colour from 1st Word?

Gareth Walker, Merthyr Tydfil

stf: According to the 1st Word Plus manual you should use the Epson JX printer driver supplied when using a 9-pin colour printer. This should work with all Epson-emulating colour printers.

AUCTION BARGAIN?

I have bought a Hermes 18-pin wide-carriage printer at an auction for £10. It has a Centronics and a parallel interface, and although the parallel interface works perfectly with the office PCs I can get no results from my ST. How can I get it going?

Andy Mills, Hampshire

stf: Check the software you were using at work to see which printer driver was installed (Epson for instance) and set up your own machine in a similar fashion. If the software you are using does not contain a matching printer driver,

you need to produce games. To order STOS and save up to £42 into the bargain, turn to our mail orders section on page 46.

VIDEO GRABBING



I am thinking of investing in Rombo's Complete Colour Solution. Would I need a video recorder with a perfect freeze frame capability to run this package?

J L Pickard, Wolverhampton

stf: No, you don't need a video with this feature – the Vidi ST digitiser can grab 12 images per second while the video is running.

MORE SERIAL PROBLEMS



I am having difficulties using the RS232 port to drive an input/output module. The Atari manual states that pin 6 is not connected on the ST, but other documents dealing with RS232 say that pin 6 is normally DSR (Data Set Ready). Is pin 6 on my machine connected or not? I have also seen references to

RS232 and RS232C – is there a difference between the two?

Arthur Ott, Essex

stf: No, pin 6 is not used on ST serial ports. To all intents and purposes there is no difference between RS232 and RS232C – anything marked RS232-compatible should work with your machine.

CLASHING ACCESSORIES



The new Mega STE and TT control panel Xcontrol Accessory clashes with the TOS 1.4 fix on ST FORMAT Cover Disk 26, causing the system to crash if the Modem CPX is opened. Could you please tell me which mouse accelerator program is supported by Xcontrol?

R Jibson, Stockport

stf: Accessories are like close relatives – they don't always get on with each other, especially if they're from different generations. Because the Xcontrol Accessory is not specifically de-

problem has been cured in the new version on this issue's Cover Disk.

ARTISTIC ANIMATIONS

I am looking for an art package on the ST to enable me to produce 3D objects and animate them to produce sequences. I also wish to incorporate Sequencer One music into the finished sequences. How can I achieve this?

Douglas David Grannell, Staffs

stf: The ideal package for 3D animations is Volume, and it's yours on this issue's Cover Disk. Unfortunately you can't add sound in this package, but you can save Volume's results out as Degas format pictures and then import these into Intro Designer – yet another complete program, and also yours on the Cover Disk. Intro Designer enables you to combine animations and sound samples into complete sound and

then contact a PD library to see if they can supply what you need – see our directory on page 44 for one near you. Most have a wide range of printer drivers in their collections.

MAKE THAT CONNECTION

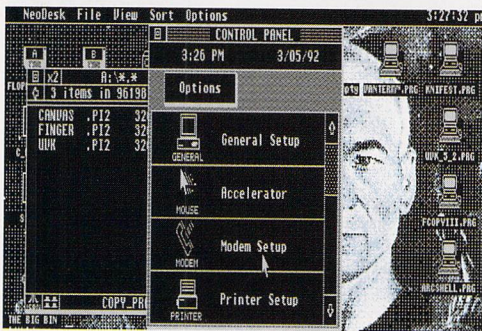
How do I get my Epson MX80 9-pin printer to work on my 1040STFM?

Paul McCool, Glasgow

stf: Essentially you plug it in and hit the "Print" command in your software. You need a Cen-

tronics printer lead – between £7 and £10 from a computer shop, or contact WeServe (☎ 0705 325345) for leads by mail order. Connect the lead between your printer and the printer socket on your ST. Any program which outputs to a printer gives you an option to select the printer type – check the manual for how to get at these if you're not sure. If there is no option for Epson MX printers, choose Epson FX. This is present in all programs which use a printer. It's even possible that this is the pre-set default printer. Now select the program's Print option and you're ready to go.

signed for use with versions of TOS below 2.0 it is liable to clash with operating system routines and Accessories. For a mouse accelerator compatible with Xcontrol, try Maccel2 or Maccel3. Maccel2 is available from your friendly local PD library and Maccel3 can be obtained from



● The Xcontrol Panel for the new Mega STes and TTs. It may clash with older versions of TOS, so you need software patches. Still, it looks rather nice.

Goodman Enterprises (☎ 0782 335650) on disk GD750 (£2.75) and on STF Cover Disk 31.

MODULATOR SEARCH



I have a 1040STF with mono monitor. Do you know where I can get a modulator to connect my machine to the TV?

R Marshall, West Midlands

Silica Systems (☎ 081 309 1111) offer an internal modulator upgrade service to 520STs and 520 or 1040STFs for £45, including fitting. Call Silica to check for availability.

WHICH INTERFACE?



Could you give me some advice on robotic interfaces for the ST? I see you have adverts for two different types of interface, the I/O port from Switchsoft or the Robokit from Silica Systems. Which should I choose to be quickly controlling my own robot?

Eddie Barnard, Kent

stf: The Atari Robokit (£49.00) from Silica Systems (☎ 081 309 1111) comes complete with operating software and instructions to control robots and models built with Technical Lego,

but the Switchsoft I/O Port (£26.95) is supplied with details of BASIC commands for you to use from within your own software. This makes the device from Switchsoft (☎ 0325 464423) more flexible than the Robokit because there is no limit to the type of interfacing projects possible. However, in your case, because you just want to build Lego robots, buy the Robokit.

OUT OF CONTROL (CODES)



I am having a problem using ST Writer Elite to output control codes to my Star LC-10 printer. I have entered the control codes before the text in document but I just get the numbers printed out before the text. Can you give me some advice on this?

Robert Chambers, Blackpool

stf: To enter decimal codes into ST Writer you must first press the <Control> key (on the left end of the keyboard) and the letter "O". A high-lighted letter O appears at the start of the line of text. Now enter your decimal control codes separated by commas and press <Return> after the last code. All following text is now printed in the new style – don't forget to reset the style of the text afterwards.

MORE MEDIUM RESOLUTION



I have NeoDesk 3 installed on my hard drive and STE combination. The problem is that even using the medium resolution program NeoDesk still appears in low resolution. Am I missing something really basic?

G J Edwards, Leeds

stf: Once you have booted up and NeoDesk has loaded in low resolution, select Change Resolution from the NeoDesk Options menu. This causes NeoDesk to modify the DESKTOP.INF file and reboots the system. The system now reloads NeoDesk in medium resolution. Set up

vision extravaganzas. If you find you want more elaborate 3D pictures than Volume can manage, the best single art package for this kind of work is undoubtedly Deluxe Paint (£45.99) from Electronic Arts (☎ 0927 473556), which can create the kind of animations you want – still without sound, but once again they can be imported into Intro Designer. To simplify this process, you'd have to delve into programming.

SIMULATOR EMULATOR (SHAKE, RATTLE AND ROLL)

1 I am interested in using my ST to play flight simulators, particularly the EGA and VGA versions available for PC-compatibles. If I purchased the AT-Once 386SX emulator for the ST, could I connect it to a VGA monitor and AdLib sound board? I don't really want to buy a PC because I have so much ST related software and equipment.

2 Also, could you tell me if there is an instruction

manual for STOS? The book I received with it is called "The Game Creator."

A Bland, Nottingham

stf: 1 No, you cannot connect PC graphics and sound cards to the Vortex AT-Once emulators because there is no provision for adding PC expansion cards. The AT-Once takes over the ST's display and sound outputs and can give mono VGA output on the Atari SM124 and SM-144 high resolution monitors.

2 The book you received with STOS is the manual. It just happens that STOS was designed primarily as a version of BASIC geared to sound and graphics, which is ideal for games.

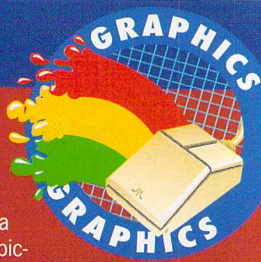
IS 3D FOR ME?

I am getting a mono monitor which I intend to use with a 3D CAD program. I saw the Stonehenge pics produced by CAD-3D in ST FORMAT 30 and was very

impressed. Does CAD-3D rotate objects for editing? How does it compare with Cyber Sculpt? Can I create a 3D object and save it as a picture file to be imported into a low res art package such as Canvas or Degas Elite?

Nic Butler, Weymouth

stf: CAD-3D 2 is part of the same software range as the Cyber series by Antic Software and objects you produce with it may be directly imported into Cyber packages to produce animations. It can rotate objects, zoom or out, fill objects, scale objects and so forth. It can also save files in Degas high res format which can then be imported directly into Degas Elite in low res, or converted to low res Degas or Neo-chrome files by the Picswitch 7 file conversion utility (which is PD). CAD-3D 2 is £39.95 from Cambridge Business Software ☎ 0763 262582.





Ultimately, there is a solution

A GHOST OF A CHANCE

I have run a virus test and it has told me that my ST has the Ghost Virus. How can I get this out of my machine?

Alex Jacottet, Oxford

stf: It is important to realise that a virus cannot survive in your machine after it is switched off and left off for at least 30 seconds. A virus cannot damage your machine in any way or lurk about under the keyboard. It is just a program. The best way to ensure that a virus doesn't get into your system in the first place is to buy PD only from reputable libraries and to check every disk you receive with a good virus killer such as The Ultimate Virus Killer (£9.99 Douglas Communications ☎ 061 456 9587) before you run the programs. Remember, viruses cannot copy themselves to write-protected disks, so keep the write-protect tab open unless you really need to write data to disk.

Important warning: NEVER use a virus killer on a commercial games disk. Most virus killers cannot recognise the special bootsectors on games disks and think there's a virus present when there isn't. You have been warned!

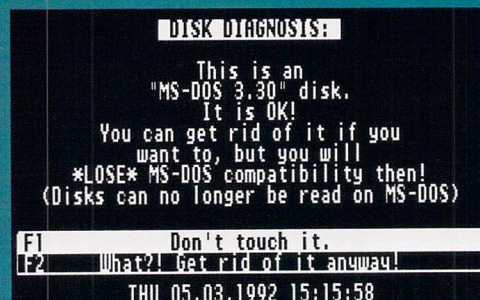
CORRUPTION

Some of my games appear to have become corrupted in some way. It seems that something has destroyed the bootsectors of F-19 and Rainbow Islands. Can you tell me of any PD software that can repair the bootsectors on these disks and could you supply the address of Microprose Simulations?

Laurence Withers, Reading

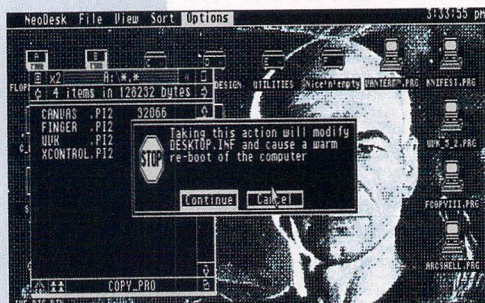
stf: Both the games you mention can have their bootsectors repaired by the Ultimate Virus Killer. Remember to always keep games disks write-protected to prevent them being accidentally erased or infected by a virus, and

never use a virus killer to check new games for viruses – this destroys them as effectively as a virus can. Microprose are at Unit 1, Hampton Road Industrial Estate, Tetbury, Glos, GL8 8LD, ☎ 0666 504326.



● More than you ever wanted to know about your disks. Give them the once-over with the Ultimate Virus Killer, probably the best ST virus killer in the world. (Written in the UK by Danes.)

the Desktop to your requirements and use Save Configuration from the Options menu. NeoDesk then boots up in medium resolution and with the desired layout.



● You can reset NeoDesk to low resolution via the Options menu and the Change Resolution option, which brings up this remarkable alert box.

GFA QUERY



Alex Jacottet from Oxford has a question about GFA Basic v2. He wonders whether it is a Public Domain program. Not quite. The copyright for GFA Basic v2 is still owned by GFA Data Media, but they have granted several PD libraries the licence to dis-

tribute it. The complete package including GFA Basic v2, the GFA Compiler v2 and full documentation is available for just £20 direct from GFA Data Media ☎ 0734 794941.

SIGN OF THE TIMES (AGAIN)



I am having a small problem with 1st Word Plus. I cannot get the program to print out pound signs on my printer – all I get is a questionmark. Can I reset my printer to cure this?

Nigel Austin, Bristol

stf: There is no need to reset the printer. All you need to do is enter a hash sign (#) instead of the pound sign. This should solve the problem on the majority of printers.

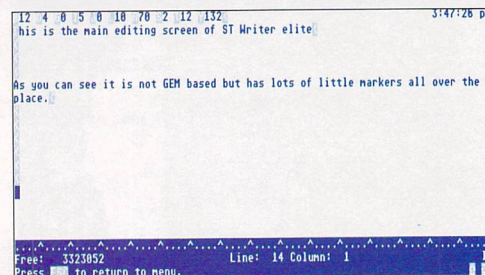
WORDS ARE CHEAP



Could you please recommend a reasonably priced word processor package, perhaps from the Public Domain.

D R Smith, Bristol

stf: The two favorite PD word processors are



● ST Writer Elite, one of the most popular Public Domain word processors around. Why? 'Cos it's an absolute bargain, mate!

1st Word and ST Writer Elite. Each has its own advantages, but because they're so cheap you could try them both to see which one best suits your needs. Any PD library should be able to oblige – check our directory on page 44 for the one nearest you. Alternatively you could get hold of ST FORMAT 33 – it includes a full-price word processor, Write On, on the second Cover Disk. In addition to all the usual WP functions, this boasts some DTP-like features such as graphics and paragraph tagging. If you missed that issue, you can order a copy from our back issues service on page 62.



You have to cut to print it...

DESKJET ERRORS

I have been using an NEC dot matrix printer with my ST for some time with no problems at all. I am now using an HP Deskjet 500 and I appear to be getting some problems when printing. Characters are replaced by other characters for no apparent reason. My original printer cable is two metres long and works fine with my NEC. A shorter ribbon cable seems to work okay with the Deskjet. Is the fault with the printer or my ST?

S B Price, Gloucestershire

stf: You have already solved the problem yourself by using a shorter printer lead. The ST's

parallel port is a touch under-powered, although this problem varies from machine to machine. An alternative solution to a shorter lead is to use a hardware printer buffer which can have the effect of increasing the signal from the parallel port. Frontier Software (☎ 0423 567140) supply a range of printer buffers ranging from 128K (£49.99) to 1MByte (£99.99).

COLOUR OUTPUT PROBLEMS

I am using a Citizen ProDot 24 colour printer with my ST but I can't actually seem to get any colour print-

outs. I have tried Hyperpaint 2, Degas Elite and Neochrome to no avail. How can I manage a colour printout?

Mike O'Shea, Birmingham

stf: The Flexidump Plus colour printer utility from Care Electronics (☎ 0923 894064) is the solution to this problem. It comes complete with mono and colour 9-pin and 24-pin printer drivers and costs £39.95. You simply use your favourite paint package as normal to produce your graphics, save them to disk, load up Flexidump, load in the pictures and print them out. Not as simple as just hitting Print, but it works.

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Stereo Master, some speakers, and my STE

I am thinking of getting Stereo Master and Zi-Fi speakers for use with my STE.

- 1 Do I need any extra peripherals to run and use Stereo Master?
- 2 Can I produce samples like the ones on STF Cover Disk 31?
- 3 Can I use Stereo Master without MIDI support?
- 4 Do the Zi-Fi speakers work with all software packages (games) or just with music programs?
- 5 Can I record the output of the ST onto cassette?

6 Where can I buy Stereo Master and Zi-Fi?
Phillip Eccott, Bristol

stf: 1 No, Stereo Master is self-contained, with software, a cartridge and a 3.5mm stereo jack lead to connect to your input source.

2 Yes, you can.

3 Stereo Master can be used without any MIDI instruments connected. MIDI support is an extra feature of the package.

4 Yes, the Zi-Fi works with games because all of the STE's sound output is routed through the stereo phono sockets.

5 You can use a phono lead to connect your STE's phono sockets to the AUX inputs or CD inputs of a hi-fi system and then use the tape deck to record as usual.

6 Stereo Master is available from STF at only £29.95, saving you £10 – see page 46. Zi-Fi is £39.95 from Evesham Micros ☎ 0386 765500.

DESKTOP EDITOR



On ST FORMAT Cover Disk 13 there was a program called GemPlus to edit the Desktop icons, but unfortunately it does not work on the STE (which I have). Do you know of a PD utility that will enable me to do this on the STE? I don't want a replacement Desktop program, just some new icons.

Jeremy Holland, Buckingham

stf: The only such program we know of is the Window Icon Editor. The editor program is designed for high resolution only but does work

with a mono emulator, and the icons designed can be used in any resolution. It is on disk GD928 from Goodman Enterprises (0782 335650) and costs £2.75.

WHICH PITCH?



I am going to get a colour monitor for my machine, having stuck with a TV for the last five years. I have narrowed my choice down to the Phillips CM8833 Mark 2, the Atari 1435 (which is a Philips CM8833 Mark 2) or the Protar Vista C14M (which is a Philips

CM8833 Mark 2). It looks as though I will get the Philips whatever I decide. However I believe that the monitor has a dot pitch (dot size) of .42mm whereas top quality colour VGA monitors have a dot pitch of .28mm, giving a sharper image. Can I use VGA monitors with my machine to produce a better image?

Ian Lyall, Aberdeenshire

stf: No, you cannot use a VGA (Video Graphics Array) monitor with an ST. They are designed for use with the high res output of PC-compatible VGA graphics cards, which is usually 640 x 480 pixels, and although this is practically the



STOS surgery

More of your STOS programming queries tackled by Asa Burrows

STOS MUSICIAN

I own an ST, a MIDI keyboard and STOS. I am interested in recording and playing my keyboard's notes and voices to and from a dimensioned array within STOS. Can this be done, and if so, how?

Graham Elliott

stf: Yes, Graham, and the solution is yours on this issue's Cover Disk! It's an extension to STOS that not only enables you to copy what comes in from the MIDI port but also enables you to send it through – it would be a bit useless if you couldn't! Being able to send data to and from the MIDI ports opens up many avenues – you could record your masterpiece from your MIDI keyboard, then play it back again, or you could program a networked ST game, where you could theoretically have up to 16 STs connected together! (If you do end up creating something like this, be sure you let us know about it, won't you!) Read the document file MIDI.DOC on the Cover Disk for an explanation of how to use the commands.

IT'S FULL OF STARS

Is it possible to have different layers of scrolling in STOS BASIC, so you could create effects like parallax stars?

K Cadogan, Leyton

stf: Yes, it is possible to have parallax scrolling

within a STOS BASIC program, although it wouldn't be very fast. You would achieve this by using the SCREEN\$ command, which automatically overlays the source image in a string with the destination screen. Look up this command in the STOS manual for an explanation of how to use it.

JUST ADD TEXT

I am a great fan of STOS BASIC and after reading your STOS Surgery section in STF 31 I tried the sine-wave program. It's great and works wonderfully. Could you possibly list in your next issue a program to show some good style lettering, to scroll along the screen while the sine-wave program is wobbling in the background?

Mark Winter, South Yorkshire

stf: This is possible, Mark, although we won't write a program to do it for you – it is always best to learn something when you do it yourself. On the Cover Disk there's a program called PROG0001.BAS, which scrolls a string of text along the screen and that's it. Use the SCREEN\$ command and you can adapt the program to work within the sine-wave program and have the wobbly screen working in the background.

The Cover Disk program works by reading the text from the data statements into a string variable (lines 120 and 130), making it easier to hold all the text in a single variable. The program then makes use of the SCREEN COPY command's ability to copy graphics from a pixel offset, rather than from a 16-bit set boundary as the STOS manual describes. The program also uses the screen swap technique to prevent

flicker when the system is updating the screen. Notice that line 170 sets the logical screen address to the back screen address, prints the text and then sets the logical screen back to its original address. This is because the PRINT command always prints to the logical and back screen regardless of whether AUTO BACK is on or off, which can sometimes be a real pain.

You should be able to work from this.

CASTING FOR A TYPE

I am trying to find some quick method for finding out what machine a STOS program is running on, so I can identify STEs and change some program routines accordingly. I know that the ROM version number is stored in BCD format in the two bytes at address \$fc0002 but I cannot get STOS to DEEK above \$400000. This is apparently the highest RAM address. Attempting to DEEK any higher generates a bus error. Is there any way to DEEK the ROM?

Paul Vincent, Cardiff

stf: With the STE STOS Extension STF gave you on Cover Disk 32, you can find out whether your program is running on the STE or not. You say you can't DEEK above \$400000. It is actually possible to address above \$400000 if the address exists, although if you access these addresses directly your program might not be compatible with future machines, and it would have been easier to go through a system trap.

SHORT CUT

In STF 32 we talked about getting rid of sprites. The method described does work, but it is simpler to use



READERS' TIPS

HARD DRIVE HANG-UP TIP

In **ST FORMAT 13** Roland Given claimed that the only way to rescue a hard drive from a corrupted **ICDBOOT.SYS** which crashes the drive is to use the **HDUTIL.PRG** copied to a RAMdisk before the hard drive is turned on. There is a much simpler solution as long as you have an ICD card. On the floppy disk supplied with the ICD interface is a program called **ICDBOOT.PRG**. This file installs and boots the hard drive. Simply follow these steps.

- 1 Turn off the ST but leave the hard drive on.
- 2 Insert the floppy with **ICDBOOT.PRG** in drive A.
- 3 Switch on the ST and hold down the <Alternate> and the left <Shift> keys.
- 4 The Desktop now loads from the floppy disk, not the hard drive.
- 5 Run the **ICDBOOT.PRG** from the floppy disk.
- 6 Install a drive C icon from the Desktop and you are now able to access the hard drive and get to the corrupted files.

Richard Fitzgerald, Essex.

same as the ST's high res mode of 640 x 400 pixels they are not compatible. The ST's low res colour resolution is based on the CGA (Colour Graphics Adapter) standard of 340 x 200 pixels. When a PC-compatible with VGA colour graphics runs a CGA colour game it emulates a CGA display, resulting in the same picture quality as you would get on a CGA monitor anyway.

STILL SINGLE AFTER ALL THESE YEARS



I have an older STFM with a single-sided disk drive. I have been using the B-Boot program from **ST FORMAT** Cover Disk 5, but this does not work with the new games I received at Christmas – my machine reads drive B for a few seconds before reverting to drive A and crashing. What is the best way for me to modify my machine to be able to run my new games?

Phillip Orrell, Shropshire

stf: The best thing for you to do is replace your internal drive with a double-sided model. Although this sounds like a drastic solution, more and more software is now being released on double-sided disks only – including **ST FORMAT** Cover Disks. Internal drive upgrades are now very affordable, costing little more than some

games: **Power Computing** (☎ 0234 843388) can supply a double-sided internal drive (part no **PC7201**) for just £35. Full instructions on replacing your internal drive were in the Desktop pages of **ST FORMAT 32**.

WHO IS THIS ROGER WILCO ANYWAY?



I own a 520 STFM and like flight sims. Are there any companies that produce more realistic sims rather than the ones that are on the market today?

T Akers, Staffs.

The most realistic sim you can get is a matter of opinion – after all, unless you've flown all the planes how are you to know? **ProFlight from Hi-Soft** (£39.95, ☎ 0525 718181) is probably your best bet, though.

FAILING MEMORY



I have a second-hand 520ST which has been upgraded to 1MByte of memory with the extra RAM chips mounted piggyback on top of the originals. Unfortunately the upgrade seems to be incomplete because I cannot run programs that need more than

the command **SPRITE OFF n** where **n** is the number of your sprite. Thanks to **Paul Vincent of Cardiff** and all the other readers who wrote to point this out – you are all brilliant!

SMOOTH GAME MAKING

I am writing a game at the moment which has a time limit in it. This is easy, but when it comes to displaying the remaining time on-screen I get a few problems. At first, I used **LOCATE** but it made the sprite's movement jerky, pausing every second and then zooming ahead to keep up. I then tried to fill in small segments on my status-bar-type thing with the **PAINT** command but this was even worse, re-drawing the sprites after each paint. I then tried drawing a bar showing time left, but this has the same result as **PAINT**. Eventually I tried **DRAW** to slowly cover up the passed time, but this had the same effect as **LOCATE**. I finally came up with the following listing, which delays drawing the line until the sprite is not moving, but this sometimes causes big delays and gaps in my bar. My listing is:

```
100 rem - This part in the main program loop
110 if timer>41 and movon(1)=0 then gosub 500
```

```
500 TIME=TIME+1
510 fraw 0+TIME,0 to 0+TIME,10
520 timer=0
530 return
```

Is there a better way of doing this?

Andrew Cooper, Herts

stf: The problem is not with the initial part of this program but with its entire structure. This is because all the options you said you have tried should work fine. When machine code program-

mers program a game, they all use basically the same techniques. When they structure their programs, they set up a logical and a physical screen. The physical is displayed all the time and the logical is sitting somewhere else in memory, out of the player's view. This enables the programmer to display the game in frames drawn so many times a second, depending on how much the machine has to do before the frame is displayed. They do this by drawing the game's next frame on to the logical, then swapping the physical and logical screen addresses so the logical becomes physical and vice versa. Before the program actually draws the next frame it then checks various things like the joysticks, sprite anim, sprite movement, timer, and so on. This enables the program to run totally flicker-free, with all timers and sprites moving smoothly. The programmer's main program loop would look something like this:

```
Check joystick/keyboard
update sprite
update anim
update baddie movement
update timer/s
do any other special activities for the game
draw sprites, timer, and so on...
swap logical and physical, wait for screen vbl
repeat
```

When you program a game with **STOS** it's best to use the same technique. You can do this by turning **AUTO BACK** and **UPDATE** off and setting logical to the back screen. You can still use the movement and animation commands with your program – just tell **STOS** when to update them instead of leaving **STOS** trying to do it every fiftieth of a second. Your game then

works much more smoothly and all of your program's routines slow down in relation to each other.

To help you out, **PROG-0002.BAS** on the Cover Disk contains two simple timer count-down routines.

SPEAK UP, CHANNEL 3

Scott Evans from **Cardiff** is only 16 years old and is a very good programmer, judging by the many tips he has sent in. One is **PROG0003.BAS** on this issue's Cover Disk – it's a little routine that gets the volume of the ST's three voice channels. Line 130 is the important line in this program – the line that does the stuff. **POKE \$ff8800,j+8** tells the sound chip to return the volume of channel 1(8), 2(9) or 3(10). **VL=(PEEK(\$ff8800)*3)** gets the value returned by the chip and multiplies it by three. The number returned is in the range 0 to 15 because the sound chip only has 4 bits for amplitude with each channel. Thanks, Scott, for that tip – it's no doubt going to be used by many **STOS** programmers! Watch for more of Scott's little gems in future issues.

WATCH THAT SOUND

Graham Cruickshonks from **Scotland** has sent in a very nifty little program which displays the sound wave of a sample from bank 5. **PROG0004.BAS** is that program, and it's on this issue's Cover Disk.



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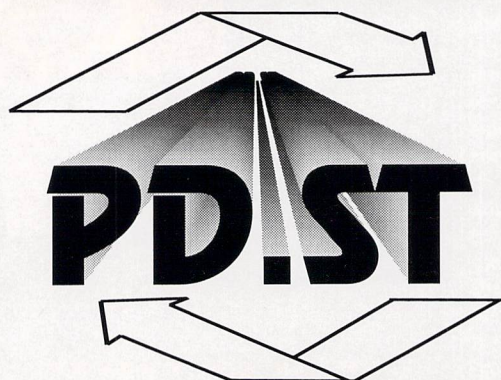
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MIDI helpfile

More music problems solved by Vic Lennard

WIRED FOR TROUBLE

I have recently purchased a new synth (a Yamaha QY10) in addition to my keyboard and my ST, and now have a problem. Since the QY10 is a synth module, it needs to be connected to my ST and to my keyboard, but my ST also needs to be connected to the keyboard.

I have found a way of connecting everything to everything but I need a lead which I cannot find in either my Maplin catalogue or any shops. The lead I require has a 5-pin DIN plug connected to two MIDI sockets. Can I make one, or is there another way to connect up my equipment?

S King, Lancashire

stf: Stop! Whatever you do, don't wire up a cable in the manner you've described! You can't treat MIDI like audio, where you can solder up a "Y" connector to split a signal into two paths, because of the way MIDI is designed to work.

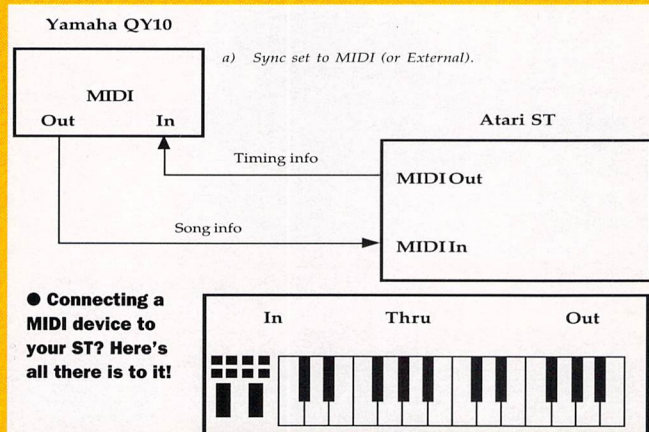
Most MIDI devices have MIDI In, Out and Thru ports. MIDI information is transmitted from a MIDI Out port and is received at a MIDI In port; the MIDI Thru duplicates the data received at the MIDI In and enables you to send the information on to another device. If you have a keyboard with a MIDI Thru port, you connect the

keyboard to the ST by MIDI In to Out both ways round, and then connect the MIDI Thru on the keyboard to the MIDI In of the MIDI sound module. If you have many sound modules, you can continue to "daisy-chain" them in this manner, although once you have connected three or four devices like this you might start to have problems with notes hanging on.

Unfortunately, it is not mandatory for MIDI devices to have a MIDI Thru port – the Yamaha QY10 doesn't have one, and though you don't mention which keyboard you have it's likely that the MIDI Thru is missing there as well. What you need is MIDI Thru Box, which takes a single MIDI In and duplicates it a number of times. Philip Rees (☎ 0608 811215) make two such boxes: the V-3 (£13.95) offers three MIDI Thrus and runs from a lithium battery; the V-10 (£39.95) is mains-powered and offers ten MIDI Thrus. You should also use a MIDI Thru Box if you have more than four MIDI devices which need to be connected in the

"daisy-chain" arrangement mentioned.

The illustration shows how your "star-system" should be connected up. The only other thing you need to do is make sure that the "soft-thru" is turned on in the ST sequencer program you are using. The MIDI channel of the sound on the QY-10 that you wish to play from the keyboard is dictated by the MIDI channel of the current track on the sequencer.



IT DOESN'T ADD UP

I use a Kawai K1-r module with my 1040 STE. I am currently working on an editor for it, but have come across a Checksum problem with its System Exclusive Specification. The booklet states that the "Checksum value (s87) is the sum of A5H and s0 to s86 and bit 7 must be clear." I cannot figure out how to work it out. I have tried summing all of the values and adding A5H, but it usually works out to be about 4,000 and the checksum can only have values up to 127! How do I do it?

Ben Hall, Kent

stf: Let's start with a quick look at System Exclusive. When MIDI was created, the area concerning movement of memory parameters, which are exclusive to each synth, was left intentionally open. All that is necessary is that the first byte is an \$F0 (the "\$" shows that the number is in hexadecimal, or base 16), the last byte is an \$F7 and the second byte is the manufacturer's ID number, allocated by

the bodies which regulate MIDI. All values in between the first and last byte have to be less than \$7F because MIDI data bytes only have seven data bits available – but apart from that, anything goes.

System Exclusive (SysEx) is used for two main purposes: to transfer a synth's memory to another synth of the same type or to a computer editor/librarian; and to carry out parameter changes. The first category can involve the transfer of many kilobytes of data, so many manufacturers use a checksum for security of data. This is a number which is tacked on to the end of that data just before the \$F7.

For example, let's say that the sum of all data bytes to be transferred is \$452C. Ignore all but the two least significant figures (\$2C) and work out what needs to be added to this to make it up to \$80; in this case, that would be \$54, so \$54 is the checksum. If the last two bytes exceed \$80, then subtract them from \$100 instead. If you add together all data bytes and the checksum, the least significant seven bits must all be zero – in other words, the number ends as either \$.....80 or \$.....00. The synth sums all of the numbers when they are retransmitted to it, works out its own checksum, and ensures that its version agrees with the one it receives. If it doesn't, there has been an error

and the transfer is usually aborted.

Unfortunately, the situation with the Kawai K1 is rather more complicated. For each single patch, there are 87 parameters, numbered s0 to s86. These are added together to give what must be a sizeable number. Let's say that a particular set of values gives you \$C73. Kawai use a "magic number" approach: add \$A5 to \$C73 to get \$D18, discard all but the last two bytes to leave \$18 and that is the checksum. Should the final value you get be greater than \$80, simply subtract \$80 from it to always end up with a checksum less than, or equal to, \$7F.

Confusing? Certainly is. The other problem with working with Kawai SysEx is that fact that you have to ensure that any response to a Kawai Acknowledgment message is sent within 30 milliseconds or else you get timed out – the synth simply freezes and sits there rather dumbly. Good luck!

GOT A MIDI PROBLEM?

To help us answer your MIDI music questions fully, please make sure you include full details of your equipment – the keyboard or synth module if that's your problem, and the program and version if your query is software-based. For information on the United Kingdom MIDI Association, call Vic Lennard on ☎ 081 368 2245.

READERS' TIPS

MASTERSOUND TO TRACKER CONVERSION

Here's a tip to convert Mastersound samples to TCB Tracker format from Alex Nimmo of Tunbridge Wells.

- 1 Choose the section of the sample to save in Mastersound.
 - 2 Use <Control>-S to unsign the sample.
 - 3 Save as a *.SAM file, then exit to the Desktop.
 - 4 Rename the sample with an .SPL filename extension using the Show Info option from the File menu on the Desktop.
- The file can now be loaded into TCB Tracker and used as an instrument.

512K or install a large RAMdisk. Can you help?

Nick Zywicki, Middlesex

stf: Your machine needs to be checked by a competent engineer to ensure that the upgrade has been installed correctly. If there is nowhere suitable near where you live, then contact WTS Electronics (☎ 0582 491949), who offer a very good diagnostic and repair service for STs.

HAVE A BLAST

Where can I get a Trojan light gun and software as reviewed in issue 33? How much are they?

C Chessman, Humberside



Trojan live at Trojan Products, Unit 7, Dafen Park, Llanelli, Dyfed SA14 8LX ☎ 0554 777993, and the guns are £39.99 each.



READERS' TIPS

FIVE WAYS TO SAVE YOUR DATA

- 1 If you accidentally delete a file, do not use that disk again until you have recovered the file using UNDEL.TTP (supplied with KnifeST). Saving something else to the disk may overwrite the file.
- 2 Store your floppies well away from magnetic fields. Monitors, TVs, loudspeakers and telephones all contain magnets or generate magnetic fields.
- 3 Always make regular backup copy of your files. This cannot be stressed too often.
- 4 Never try formatting a disk beyond its capabilities. 11 sectors and 85 tracks sound attractive but may result in the permanent loss of data.
- 5 Beware of cheap disks. It is worth paying 10 or 20 pence extra for a branded disk to ensure reliability.

Richard Waring, Bristol



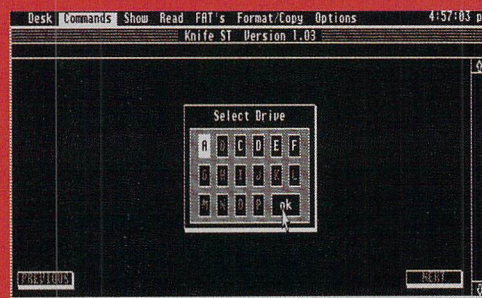
Restoring a corrupted file

CALLING INTERNATIONAL RESCUE

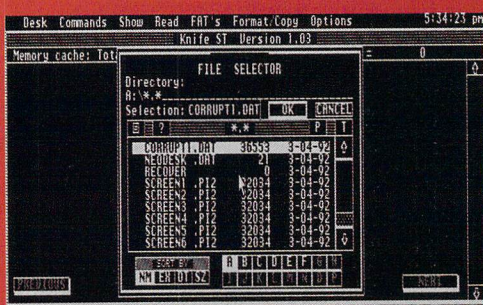
When I used a PD copy of dBase One to catalogue my records, the last entry reproduced itself continually until it filled the disk. I now have a catalogue I can't use and I would prefer not to spend another five hours re-entering all the information. Is there any way I can delete this particular entry without losing the rest of the file?

M Jobling, North Yorkshire

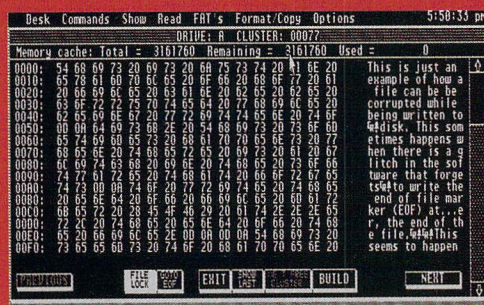
stf: In STF 22 we printed a guide to recovering lost or accidentally deleted files (see page 62 to order a copy if you missed it), but this is a completely different problem. To rescue a damaged file such as this, you need a disk editor. We recommend KnifeST (£29.95) from HiSoft (☎ 0525 718181) – just about the best program available for this type of job. Here's a step by step guide to the whole process.



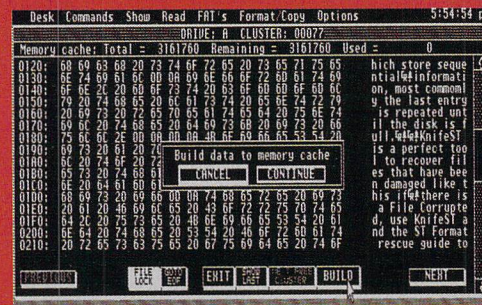
- 1 Write-protect the floppy with the corrupted data file on it (open the tab so you can see through the hole) and make a backup copy. Always work with the backup copy, never the original. Load KnifeST and use the Select Drive option from the Commands menu. This alert box opens up, displaying the drive letters. Select the floppy drive you are going to work from by clicking on its letter and then click on OK.



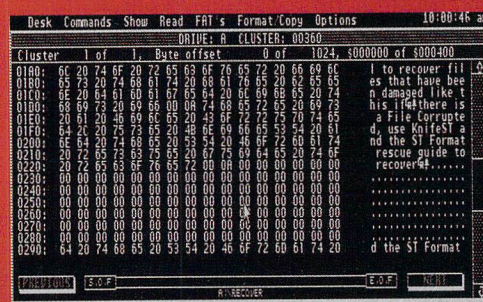
- 5 Insert the disk with the file to be rescued in the drive and select the File Lock option at the bottom left of the screen. The GEM file selector now appears. Select the damaged file and click on OK. The program now starts to read the first part of the file into its internal buffer.



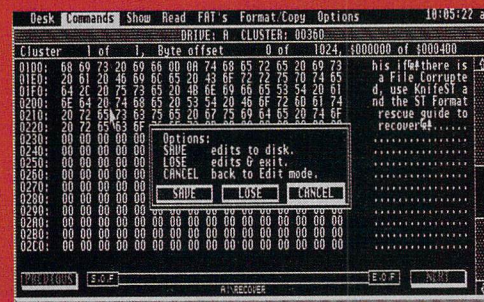
- 6 The file is shown as a Hex listing on the left hand side of the screen and the ASCII equivalent is shown on the right hand side. Use the scroll bar on the right to search through the file. If the section where the data starts repeating itself is not in the buffer, then click on the Build option at the bottom right of the screen. An alert box asks if you wish to build the file to memory – click on Continue to save the first part of the file. Click on the Next button on the bottom right to load in the next section of the damaged file from disk. Repeat the procedure, searching the buffer for the bad spot, clicking on Build if it's not there and selecting Next to load in the next section until you reach the damaged part.



- 7 Got it! When you reach this point, select Build for the last time. After the damaged section has been saved to the memory cache, click on the File Lock option to deselect it. The buffer full of data now disappears from the screen.



- 11 Move the arrow to the first of the 20s in the Hex column and click once. Now press the zero key and keep it pressed until the end of the file. Two zeros in Hex indicate the end of the file has been reached. Once you have reached the end of the file return to the Commands menu and select Edit Buffer once again.

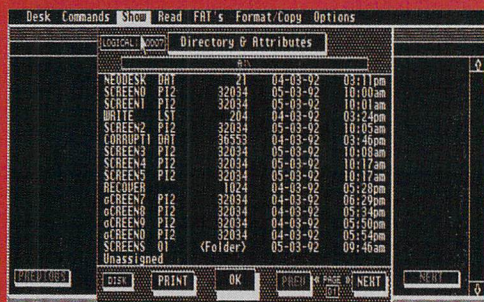


- 12 You are presented with an alert box asking if you wish to save the buffer, lose it or cancel. Select the Save option and another alert appears asking if it is okay to write the data to the disk. Select OK and you are asked yet again whether to save or not. Select Save and the data is written to the disk. You may now exit from KnifeST.

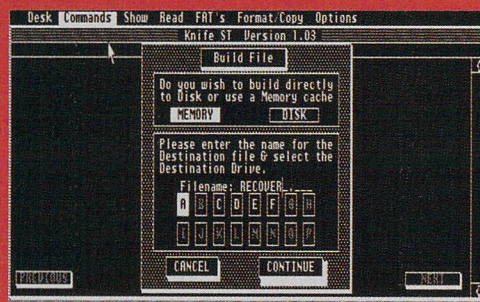


- 13 This is the test text file printed to the screen before editing in KnifeST...

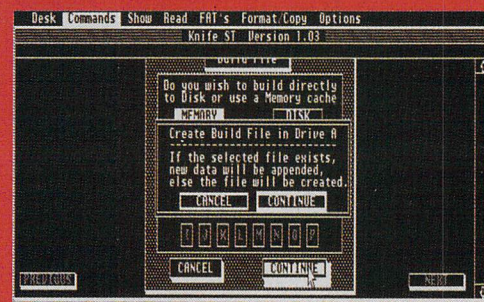
using Knife ST – a step-by-step guide



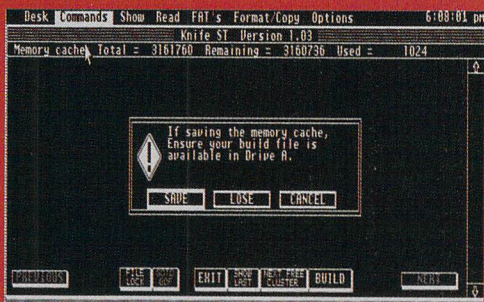
2 Go to the Show menu and select the Directory option. This displays the files on the disk, including any deleted or hidden files, enabling you to choose which file you are going to work on. Here our example file is called CORRUPT1.DAT. Click once on the filename and you can view or change various attributes, such as the filename, date, and whether the file is read only or read/write. Here you only need to copy the file, so it can be either.



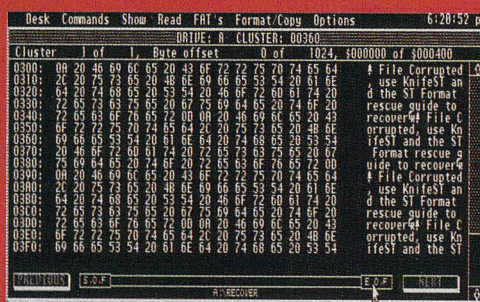
3 To restore a damaged file, you have to take parts of the original file and build a new one using just the data you require. Go to the Command menu and select the Build File option. If you only have one drive, it is best to select the option to build the new file in a memory cache – otherwise you're plagued with constant disk swaps. It is possible to recover quite large files in memory on a 520ST because KnifeST does not use too much RAM, and it only stores 1,024 bytes of the damaged file at a time in the buffer. The new name and the destination drive for the recovered file can be entered at this point.



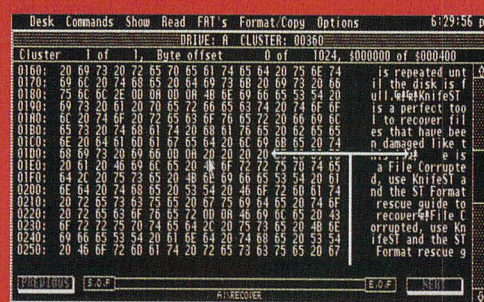
4 Insert the destination disk into the drive – the one onto which you want to save the recovered file – so the program can now write the new filename to disk. Press <Return> to continue to the next screen. Wait while the disk is written to and the program sorts itself out, then remove the disk when the next screen appears.



8 Go to the Commands menu and click on Build File again. An alert box prompts you to put your backup disk for the recovered file into the drive, ready to save it. Put the disk in the drive and click the Save button. The file is now saved to disk and the screen clears. It is important that you leave this disk in the drive.



9 Now go to the Read menu and select the File option. The GEM file selector appears. Select your recovered file. The recovered file appears in the on-screen buffer. Click on the box marked EOF and the program automatically takes you to the last section saved, the damaged one. Use the scroll bar on the right to move back through file until you reach the area where the data starts to become corrupted.



10 Go to the Commands menu and select Edit Buffer. You can now directly alter the data in the buffer. You can now move the cursor to the first part of the data to be altered. It may be helpful to go to the ASCII column and type a few spaces over the first part of the damaged data. These show up as the number 20 in the Hex column (arrowed).

This is just an example of how a file can be corrupted while being written to disk. This sometimes happens when there is a glitch in the software that forgets to write the end of file marker (EOF) at the end of the file.

This seems to happen a lot with database type files which store sequential information, most commonly the last entry is repeated until the disk is full.

KnifeST is a perfect tool to recover files that have been damaged like this if there is a File Corrupted, use KnifeST and the ST Format rescue guide to recover. Press any key or mouse button to return to the desktop.

14 And this is the same file after editing. Once you have edited the file and saved it to disk, rename it with the correct filename extension for the program you are using (.DAT, .DOC or whatever) and you should now be able to load it into that program. Another absolutely nerve wracking problem solved by ST! Now pass that Lemmings disk...



READERS' TIPS

SINGULAR TIPS, DOUBLE DISPLAY

Neil Hellowell from Leeds has sent in some file copying tips for ST owners with single drive systems. Copying a file from inside a folder to the root directory, or into another folder on the same disk, can be a great puzzle to the beginner. Indirect routes such as using RAMdisk or the drive B icon can do the job but are not needed if you

use the following procedure.

Double-click on your Drive A icon and you open its root directory. If you now double-click again on the drive A icon, you open a second copy of the same directory. Position and re-size the two windows to suit your own preferences. You can now manipulate the two windows completely independently of each other, using one to delve into a folder and seek out your file, however deeply it is nested. The other window can be set to show the desired destination, either the root directory or a folder of your choice.

File copying now becomes a simple task: just drag the stuff about from window to window and dump it where you want it to end up.



What are they going to do about it?

GENERAL MIDI SYSTEM

When I play my MIDI compositions on someone else's setup, why does the drum kit sound like a triangle quartet and the piano like a set of bagpipes?

Peter Hienrichsen, Essex

stf: One of the joys of using MIDI is that you can create your own masterpieces with a sequencer – whether it's software on your ST like *Sequencer One* or the small hardware variety like the Alesis MMT-8. All you need is a keyboard and a sound module of some description. Sometimes the keyboard has its own internal sounds, like the Roland D-5 or the Yamaha PSS range, both of which are multi-timbral – that is, they can play many sounds at the same time.

However, there is little point creating a masterpiece if you can't play it to other people. To this end, you can record your songs onto a cassette and play it from a tape recorder, but it's a lot more fun simply taking a disk to a friend's house and playing back a song on another MIDI system. This is likely to be centred on an ST as well, of course, so you can bring your own sequencer program with you as well. Keyboards and sound modules are a fair bit larger and heavier, so it's more sensible to use your friend's offerings instead. You load up your song, set it to play... and find that the drum kit sounds like a triangle quartet and the piano like a set of bagpipes!

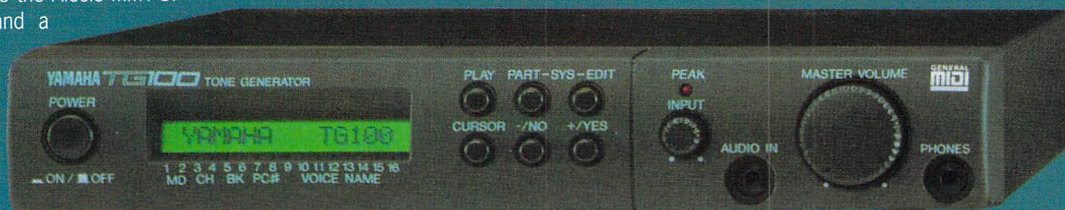
Why is this? While you can use special MIDI commands

called Patch Changes (of which there are 128) to make sure that the right sounds are called up at the start of your song, a different synth is likely to have different sounds. So MIDI Patch Change #1 on your synth may be Grand Piano, but on another synth it might be bagpipes – see the problem?

As for the drums, the way drum machines and synths work with these is to use specific note numbers for different drum sounds. MIDI is capable of

means that the sounds are of a lead synth type. For the drums, MIDI channel 10 is always used for percussion, and the map of percussion sounds against MIDI note numbers is fixed – for example, note #36 (C1, or the bottom key on most five-octave keyboards) is Bass Drum 1, and note #60 (C3, or Middle C on most five-octave keyboards) is Hi Bongo.

Ever noticed that notes start dropping out when you try to play more notes than a synth can handle?



● This sound module conforms to GM, so sounds are in the same place as in other GM synths.

supporting 128 notes, numbered from 0 to 127, but note number 36 may be a bass drum on one machine but a triangle on another. Each time you programmed the bass drum to sound, you now get a triangle sound instead. Also, you may have used a MIDI channel for your drums different from the channel your friend's synth is using – for instance, most Roland devices default to MIDI channel 10 but Yamaha tend to use MIDI channel 16.

To get around this huge problem area, the two authorities who control the changes to MIDI (in the USA and Japan) have created the General MIDI System. The idea is that sounds should be in the same MIDI patch positions in every synth which conforms to General MIDI, commonly known as GM. For example, Patch #1 is always going to be Acoustic Grand Piano, and Patch #33 is Acoustic Bass. However, some of the 128 listed sounds are open to interpretation: Patches 81 to 88 are Lead 1 to Lead 8, which simply

This maximum number of notes is called the Polyphony of that synth, and once you exceed this quantity something has to give – usually the note that has been playing for the longest time. To help avoid this situation, all GM synths should have a polyphony of 24 notes – meaning you can play up to 24 notes at the same time. But you've only got ten fingers? Don't forget that these synths are multi-timbral – they can play back on all 16 MIDI channels simultaneously. You might have piano on MIDI channel 1, bass on MIDI channel 2, strings on MIDI channel 3 and so on, all being played by your sequencer. It's like having 16 tracks on a cassette, as opposed to the two for the left and right channels that we have to put up with.

You can even buy some of these wondrous synths. Roland's *Sound Canvas* sound module, out for over a year, conforms to most aspects of GM. It has a front screen with bar graphs which move up and down as you use the different MIDI channels, and it has more sounds than the minimal 128 that General MIDI requires. The RRP is £545, but you can cut £100 off that if you shop around. Recently released is the JV-30, which uses the same sound generation as the *Sound Canvas* but comes complete with a five-octave keyboard for £789. The CM 300 is a £398 "Computer Module," which means that it's a pretty plain grey box but again has the same sound chip. Also due soon are a Guitar Synth (GR-1, £895) and a WorkStation (JW-50, £1349), which is a keyboard with an on-board sequencer and disk drive. Finally, there's an enhanced *Sound Canvas* – the SC-155, £599 – with sliders and buttons to enable you to adjust levels and the stereo position. Roland are on ☎ 0792 310247.

Yamaha (☎ 0908 366700) have brought out the TG-100 for General MIDI – it actually plays back 28 notes and costs £349. If you're into more high-tech gear, Korg (☎ 081 427 3397) are bringing out a 32-note synth module, the O3R/W, for £999. Other manufacturers are bound to follow in the next six months or so. GM synths and other MIDI goodies are due to be shown at the MIDI Music Show at the Novotel, Hammersmith, in West London between 24 and 26 April. There was a preview in *STF* last issue – if you missed that, or issue 30, with the complete *Sequencer One* package, turn to page 62. For more information on the Show, contact Tim Collins at Westminster Exhibitions, ☎ 081 549



● Roland's JV-30 16 part multi-timbral synth is compatible with General MIDI for ease of use with other MIDI gear.



● The JV-80 is a professional keyboard but it's not GM compatible, and so not a good buy for domestic use.

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GFA Programmers' surgery

More of your GFA Basic programming questions answered by Barrie Capel

MODEL DIRECTORY

Dennis Hallman from London wants to know how to read the directory of a disk into a string. He's used:

```
DIR "A:\filename1" TO "A:\filename2"
```

but doesn't want to keep the write-protect off his disks all the time. The easiest solution is to create a RAMdisk in memory when you boot up your system, with a RAMdisk program in an AUTO folder. (ST FORMAT gave you a RAMdisk program called QuickDisk on Cover Disk 31 – if you missed that issue, turn to page 62 to order it.) Then, instead of writing to the drive you are reading the directory from, write to the RAMdisk with:

```
DIR "A:\filename1" TO "C:\filename2"
```

Dennis doesn't say what his program is going to be used for, but if it is for your own personal use this method can be tailored to suit your own needs with regard to drive letters.

LETTER PERFECT

Steve Thomas in Cardiff wants to know how to position text on-screen at any position inside an enclosed area of the screen. He has a Degas picture displayed and he's left a space for text, but when he uses `PRINT TAB(x)` part of the screen gets overwritten.

The solution to this is the `PRINT AT` command, which enables you to position the text at any given character position on the screen. In low resolution there are 40 vertical columns across the ST's screen and 25 horizontal rows, so you can imagine the screen as a large 40x24 grid (or 80x24 in medium or high res). Any position on the "grid" can be printed to with

```
PRINT AT(X,Y); "text"
```

where `x` is equal to the column across, and `y` is equal to the row down the side. Both the columns and the

rows start at 1, so the top left corner position would be 1,1. To print "Hello, World" five lines down in the 12th column, you would use:

```
PRINT AT(12,5); "Hello, World"
```

However, `PRINT AT` has two drawbacks. First, the print positioning cannot be any more accurate than the nearest multiple of eight pixels (the width and height of the characters). Second, the text is always printed using colour 15 – it cannot be anything other than the colour currently used for register 15, where the default is white.

Obviously you can alter the colour in register 15, but if you do so all previous `PRINT AT` text also changes colour. The solution is to use the ST's built-in VT52 commands, which enable you to set the ink and paper colours for screen output.

```
Ink%=4
```

```
Paper%=9
```

```
PRINT Chr$(27); "b"; chr$(Ink% Mod 16);
```

```
PRINT Chr$(27); "c"; chr$(Paper% Mod 16);
```

```
PRINT "This is Ink colour 4 on paper colour 9"
```

The colours produced depend on the current palette settings.

A better method is to use the `TEXT` command, which enables you to finely set the print position by pixel. This enables you to position the text at 200 pixels across the screen and 78 pixels down. The pixel position you specify refers to the bottom left corner of the first character of the string, which can be defined either as a string variable or within quotes:

```
TEXT 145,77, "This is Text In Quotes"
```

or

```
A$="This is Text In Quotes"
```

```
TEXT 145,77,A$
```

The colour of the text can be controlled with the `DEFTTEXT` command, so in low resolution you can have 16 pieces of text on the screen, each a different colour, although you can only see 15, because one has to be colour 0 and this is invisible against

the background. Other benefits of using `DEFTTEXT` include being able to set the style and angle of rotation, as well as the size of the text.

DIY MOUSEPROOFING

A number of readers have been using Microdeal's *Replay* cartridge (the latest version, v8, is £81.69 from Microdeal ☎ 0726 68020) and have asked how to stop the mouse from interfering with the playing back of samples. You must be using the older versions of the software routines – the latest GFA playback routines no longer suffer from this problem. However, the answer is to disable the mouse directly before the playback routine is called, and then re-enable it on completion. This also applies to playback of samples from other sampling packages.

The tidiest method to do this is with the following mouse on and off procedures:

```
Procedure mouse_off
```

```
Local A$
```

```
A$=Chr$(18)
```

```
Void Xbios(25,0,L:Varptr(A$))
```

```
Return
```

```
Procedure mouse_on
```

```
Local A$
```

```
A$=Chr$(8)
```

```
Void Xbios(25,0,L:Varptr(A$))
```

```
Return
```

Just before the playback routine is called, use the line `@mouse_off` and to turn the mouse back on again afterwards, use the line `@mouse_on`.

Two things to remember, though:

1. You can't use the mouse to stop the sample playing – use the keyboard;
2. Don't hit <Alternate>-<Shift>-<Control> to break into the program until the mouse has been re-enabled or you don't have a mouse pointer when you return to the GFA Basic editor.

GET THE WHOLE PICTURE

Mr A Tickell in Newport is having problems with the `HARDCOPY` command, with screen dumps not printing →



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My query/tip is:

Please write your tip or query here (keep it to the point and try to fit it in), then just mail this form to ST Answers, ST FORMAT, FREEPOST, Future Publishing, Bath, Avon BA1 2XF. No stamp needed if posted in the UK!

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MEMORY UPGRADES

HCS STE and MEGA STE UPGRADES

HCS STE memory upgrade kits come complete with full instructions designed for the novice. The complete job should take no longer than 15 minutes. 2 and 4 megabyte kits come with free utilities disk and multitasking software.

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To 2 Megabytes£65.00
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SOLDER IN KIT

The solder in kit is designed for people with more electronics experience. There are four types of chips used in the ST: 16 DIL chips, 4 DIL chips, 4 Surface mount chips and 16 surface mount chips. All types are normally stocked, check your configuration before ordering.

Solder in kit (all versions)£25.00

REPLACEMENTS

The HCS power supply and disk drive upgrades come complete with fitting instructions and plug straight into the ST without soldering. The Power supply produces less heat than the original so is more reliable.

Replacement power supply£39.95
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The AD Speed made by the famous ICD corporation fits in as the PC emulators. It is hardware and software switchable between 16 Megahertz and 8 Megahertz. The new SST 68030 accelerator is only available presently for the Mega ST. It gives a phenomenal speed increase by using the super fast 68030 processor running at 50 Megahertz and comes with TOS 2.5! The SST accelerator allows 8Mb of ram on board and has a position for a co-processor.

AD Speed ST£152.00
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PC EMULATORS

PC emulators allow the ST to use PC compatible programs without affecting the ST in normal operation. PC Emulators for the ST/F/M computers require the user to solder a 68 pin socket on top of the microprocessor in the ST. Installation in the STE simply plugs on top of the microprocessor using an adapter board, into the expansion slot of the Mega ST, at extra cost.

AT Speed C16£215.00
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ON
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**14
DAY
NO QUIBBLE
MONEY BACK
GUARANTEE**



Game for a laugh?

I KEEP ON KNOCKIN'

Could you please tell me how to enter the cave in the Leander demo from issue 33's Cover Disk? No matter what I do I can't get in!

Lorraine Brown, Belfast

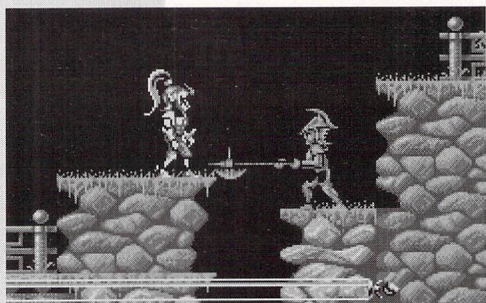
If you mean the cave with the swinging ball and chain there should be no problem – just push down in the entrance. We think you might be thinking of the other entrance to Level Two. This you can't do anything with – the preview didn't include any more than Level One.

DEUS EX MACHINA

How can you get infinite energy or lives in Gods?

Matthew Heneghan, Berkshire

Become a fantastically talented assembly programmer, disassemble the game and do it yourself. In other words, you can't. Here are the level codes, though: Level 2, TFP; Level 3, YEF; Level 4, BWV.



● No, sorry, Mr Ander (or may I call you Lee?). I'm afraid I don't have a DIY bridge without the little spike on top. This is your lot. I dunno, some people...

OH NO! NO LEMMINGS

Oh No! More Lemmings and Robocod wouldn't load on my 520STFM. The games loaded on other STFMs, and all other software loads on my machine. I've been told the trouble is caused by complicated copy protection. Is this correct?

Lee White, Norfolk

Well, there certainly is complicated copy protection on both these disks, but that shouldn't stop them loading on a 520STFM. If you're certain you have a double-sided disk drive (both these games are on double-sided disks), it may be that you have an early version of the FM that has trouble coping with the protection. Send your disks back to the software houses con-

cerned, Psygnosis (122 Century Building, Tower Street, Brunswick Business Park, Liverpool L3 4BJ) and Millennium (St John's Innovation Centre, Cowley Road, Cambridge CB4 4WS), explain your problem, and ask for replacements.

OLD AS THE ARK

- ① Are there any cheats for Arkanoid 2?
- ② Is there an ST version of Tempest?

G T Pollard, South Yorkshire

- ① Yep: try typing in DALEY '88 on the title screen. And, er, ② – no, there isn't.

TURN ON THE WORM

At the end of Level Two of R-Type the worm always kills me. What do I do?

Anthony Bellis, Middlesex

You cheat, by doing this: when the prompt for the second disk appears, press Help, type ME and then press the up arrow. Wang in the second disk and you have infinite lives. Try hitting the function keys for interesting effects.

IT'S A DOG'S LIFE

In The Secret of Monkey Island I can't get past the piranha poodles outside the Governor's mansion.

Gavin Campaigne, Glasgow

Have a wander around the forest and search out a yellow leaf. Put this leaf on the meat you've also found (haven't you?) and feed it to the poodles. Easy.

MUST DO BETTER

What games make full use of the STE's capabilities? I can't find any.

Ian Fernandes, South Norwood

That's because there aren't any. Well, apart from Top Banana from Hex (☎ 071 701 5384) – this has improved sound on the STE. That's your lot, though, unless any software publishers know different.

GOOD MORNING, VIETNAM

I bought 'Nam 1965-1975 at a show, and it won't run on my 4MByte STE running on a TV. When booting up it displays the message that it won't run on the STE or with my TOS version (1.62). Can I buy an STE

and/or TOS patch to run my game?

Simon Cole, Gloucester

No need. Just send your copy of the game back to Domark, Ferry House, 51-57 Lacy Road, Putney, London SW15 1PR, and they'll send you a new version which runs on STEs.

IS IT OUT ON TAPE?

I've bought the PD Spectrum emulator and I was wondering if there is any way I can transfer my collections of old Speccy games onto disk, perhaps by connecting a data recorder to the ST.

Mark Hockings, Hants

There's no feasible way of connecting a cassette recorder to the ST. It might be possible to transfer the games first onto a Spectrum disk and then convert them to an ST disk, but you'd need (a) detailed knowledge of both the ST and Spectrum disk formats, (b) the ability to write the converting software and (c) a way of linking the Spectrum disk drive to the ST. Besides, the Spectrum emulator is so slow that the games wouldn't be worth playing, at least not without some form of accelerated ST.

Incidentally, Software Projects, who published the classic Spectrum games Manic Miner and Jet Set Willy, are debating whether to convert these to the ST. Software Projects are part of Computer Software Distribution ☎ 061 371 8423. If you want to see these games on the ST, give them a call and register your support.

GET IT TOGETHER

My friend and I like the idea of a two-player game using linked STs. The manual says to use a null modem. Please could you tell me what a null modem is and where I can buy one?

James Clarkson, Plymouth

First, of course, you need a game that supports the linking of two STs, such as PowerMonger or Populous 2. Next you need a null modem cable, which you plug into both ST's serial ports. These cables can be bought from your local computer shop or by mail from cable specialists like Meedmore ☎ 051 521 2202.



Up and coming – or not

● "Is Elite 2 in the making?" asks Mark Blackmore of Bristol. Yes indeed. One of the programmers of the original Elite, David Braben, is right now beaver away at the sequel. Whether it sees the light of day on the ST, though, is somewhat in doubt. Some software houses seem to be neglecting the ST at the moment – but you can help convince them they're doing the wrong thing. See page 154.

● S Garner from Staffs wants to know if there are any plans to do a Dungeon Master 2. Not as far as we know, unfortunately.

● "When are Kick Off 3 and Sensible Soccer arriving on the ST?" demands Londoner K Yam. Anco are still debating whether to go ahead with Kick Off 3, but Sensible Soccer should be out on the ST sometime in July.

PLAYERS' TIPS

SIX THINGS TO DO IN POPULOUS 2

- ① Sprog early and often.
- ② For a quick win, drown all the enemy people as soon as the game starts. Unfortunately you can't do this on later levels.
- ③ Drown heroes before they reach your side.
- ④ Drown fires – just lower all the land around them and they fizzle out.
- ⑤ Use the full screen view – sometimes, if you need one of your buildings on screen to do something, this brings one into view when it wouldn't normally be.
- ⑥ Type in WOITAB as a level code.



GFA Programmers' surgery continued from page 82

out the full width of the screen. Judging by the print-outs, it seems to be a simple case of the ST not being set up correctly to output to the printer.

To solve this, switch on your ST with a disk that contains the Accessory for setting up the printer. Unless you're using one of the printer driver programs available in the Public Domain, this program is provided by Atari with the machine, and the printer setup function is included as part of the Control.Acc Accessory. Go to the Desk menu on the Desktop and click on the Accessory, then choose the printer option. Set the printer menu to read 960 pixels across the screen instead of 1,280 and this should solve the problem.

COLOUR CHART

Dave Sutton from Bristol wants to know why when using GFA Basic he can use `SETCOLOR 12,7,0,0`, then `COLOR 12`, and draw a circle which comes out red, but if he uses `SETCOLOR 2,7,0,0`, then `COLOR 2`, his circle is a different colour.

When the ST's operating system colour commands and registers were programmed, the only `SETCOLOR` registers which corresponded with the `COLOR` command registers were 0, 4, and 12. GFA v3 owners have the `VSETCOLOR` command, which operates on a one-to-one basis with the `COLOR` command, but v2 owners should refer to the following table:

SETCOLOR #	COLOR #
0	0
1	2
2	3
3	6
4	4
5	7
6	5
7	8
8	9
9	10
10	11
11	14
12	12

13
14
15

15
13
1

If you want a green line using register 10, use the following:

```
SETCOLOR 10,0,7,0
' SETCOLOR 10,0,15,0 for STE owners
COLOR 11
LINE 10,10,50,50
```

GFA Basic v3 owners would use:

```
VSETCOLOR 10,0,7,0
COLOR 10
LINE 10,10,50,50
```

THE KEY TO INPUT

Robert Glover in Scarborough wants to be able to control the input from the keyboard using the `INKEY$` function. However his listing doesn't recognise the backspace key:

```
Repeat
  N$=Inkey$
  If N$<>" "
    Print N$
  Endif
Until N$="Q" or N$=Chr$(27)
```

What is needed is an `If...Then` line to check for the pressing of the backspace or any other key that isn't normally printable. The characters 0 to 31 are control codes, and the backspace is character number 8. The `If...Then` routine needs to check if `N$=Chr$(8)`, and if it is true, move the cursor one place to the left, deleting the last keypress.

If an input string is being built up, then it would need to have the last character chopped off. Robert's example does not store each keypress, so `N$` is always equal to the last key pressed. Therefore only single keypresses may be entered. Use this listing:

```
Void Xbios(21,1,1) ! The v2 method this time!
Print At(10,10);
```

```
Main$=""
'
Do
  N$=Inkey$
  If N$<>" " And N$<>Chr$(13)
    If N$=Chr$(8)
      Main$=Left$(Main$,Len(Main$)-1)
      Print Chr$(8); " ";
    Else
      Main$=Main$+N$
    Endif
    Print At(10,10);Main$;
  Endif
  Exit If N$=Chr$(13)
! If key pressed is Return
Loop
Cls
Print Main$
```

`N$` still contains the last key pressed, or the Null String (" ") if no key has been pressed. If `N$` is not empty and is not the <Return> key, it is then checked to see if it is `Chr$(8)` – the backspace key. If it is, then `Main$` is shortened by one character. If not, then the contents of `N$` are added onto the end of `Main$`. Press <Return> and `Inkey$` equals `Chr$(13)` and the loop is exited.

The string variable `Main$` contains the keys pressed apart from the backspace or <Return> keys, and it is up to you to filter out any others you don't want included or want to act on, such as the cursor keys.

Note the `Void Xbios` call to turn on the cursor, which is how you *should* do it in v2 – the tilde symbol (~) is used in GFA Basic v3 to call the `Void Xbios` command.

AND HAND OVER YOUR CASH, TOO

Finally, to all those readers who wrote asking "Can you write a program for me to do this?" or "Here's a program from my old micro – can you re-write it in GFA Basic v2 for me?" Sorry, no. It would simply take up too much time, and the whole idea of the GFA surgery is to increase your own programming ability – not remove it!



ASSEMBLY POINTERS

Some tips for assembly language programmers – from the experts!

Chris Kirby is not just a keen reader of *ST FORMAT*, not just an experienced games and demo programmer (he works for Optimus Software, who wrote *Pegasus* and many budget ST games), but he's also a very generous man – he wants to share some tips on assembly programming.

The first tip concerns adding values to address registers. Look at the following instruction.

```
ADD.L #500,A0
```

This instruction takes 16 cycles. But the same operation can be done in eight cycles with the following instruction:

```
LEA 500(A0),A0
```

That is not all this instruction can do. Take the following piece of code.

```
ADD.L #230,A0
```

```
MOVE.L A0,A1
```

These two instructions take 20 cycles, but the same can be done with just one instruction:

```
LEA 230(A0),A1
```

Another tip Chris often uses is jump tables. The following piece of code jumps to a sub-routine depending on the value in the register `D0`. The symbol `┘` means do not enter a return yet – the line of listing was just too long to fit in our narrow columns!

```
START:
  CMP.W #0,D0      ;COMPARE ZERO ┘
                  WITH D0
  BNE NEXT_TEST1   ;IF D0 NOT ZERO ┘
                  GOTO NEXT TEST
  JSR SUB_ROUTINE_1 ;IF IT IS ZERO┘
                  GOTO ROUTINE
  BRA START        ;AND THEN START AGAIN
NEXT_TEST1:
  CMP.W #1,D0
  BNE NEXT_TEST2
  JSR SUB_ROUTINE_2
  BRA START
NEXT_TEST2:
  CMP.W #2,D0
  BNE NEXT_TEST3
  JSR SUB_ROUTINE_3
```

```
BRA START
NEXT_TEST3:
  CMP.W #3,D0
  BNE NEXT_TEST1
  JSR SUB_ROUTINE_4
  BRA START
```

This routine is very slow and hard to read – imagine if there were 30 possible routines to go to! But it can be replaced with a shorter and quicker routine:

```
START: ASL.W #2,D0 ;MULTIPLY D0 ┘
                  BY FOUR
  JSR TABLE(D0.W) ;JUMP TO ┘
                  REQUIRED ROUTINE
  BRA START
TABLE:
  BRA SUB_ROUTINE_1
  BRA SUB_ROUTINE_2
  BRA SUB_ROUTINE_3
  BRA SUB_ROUTINE_4
```

; there can be 256 routine calls here!

ST FORMAT's huge tips section continues overleaf with six pages of Gamebusters!

GAMEBUSTERS



Magnificent, isn't she? Forged of the finest mahogany during the Pleistocene Period and preserved for all time. Now, in this room we keep our Ed Ricketts. This curious creature was thought to have presided over a magazine section called Gamebusters, the purpose of which is still unknown, though we think it was something to do with mooses. And over here...



● The recently restored – and shorn – Edmundo Ricketts: smooth, pink, shiny and *extremely* knowing.

ANOTHER WORLD

US GOLD

Mark Harris of Ayrshire in Scotland was the first of many people to send us the solution to this exceptional game – he bought the French version. And so he gets the £50. By the way,



LEVEL ONE: EDJI

As soon as you appear on the screen, swim upwards and climb out onto dry land. Walk right and kill all the leeches on the screen by kicking them. Go right again and kill the leeches – make sure you kill them all, including those that drop from the ceiling. Past all the leeches you find a room with a ledge – enter carefully. The second the beast appears, turn and run left, very fast! The beast is faster than you but tumbles halfway, so you can escape. When you reach the far left screen with the vine, jump the gap and grasp the vine. You swing back over the gap and avoid the beast. Run right all the way back to the far right screen – where you get shot. Don't worry, it's supposed to happen.

LEVEL TWO: HICI

You appear in a hanging cage with another prisoner. Move the joystick in time with the cage swings to speed it up – keep going until the cage breaks off the rope and knocks the guard on the bonce. Pick up the gun he drops – just bend down over it – and run after your friend. Shoot the guard – be quick – and run to the far right where there's a locked door. While your friend fiddles about with the lock on the door, you have to keep off the guards by putting up shields with your gun. Do this by holding down <Fire> until a small ball of energy

appears at the muzzle, then release the <Fire> button. Keep replenishing these shields until the door is opened.

Turn and run onto the lift – wait for your friend to catch up – and nip down to the basement. Go left and shoot the energy beam that runs up the wall. Return to the lift and go back up one floor. If you like, you can go right up to the top floor and have a look out of the window. Blast open the door by holding down <Fire> until you get an even bigger ball of energy on your gun and release <Fire>. Run left, drop through the beam (press the down cursor while you stand over it), run left up through the next beam and the door. Your friend catches up and opens a drain you can escape through.

LEVEL THREE: FLLD

Follow the map of the screenshot to roll through the drain.

LEVEL FOUR: LIBC

When you've dropped down, turn left and enter the gun recharger. Turn and run right. Once outside, shoot the guard. Go right and sidle up slowly to the edge of the bridge, then jump off. You land on a small ledge on the other side. Blast through the rock with a high-energy ball and walk through.

LEVEL FIVE: CCAL

Prepare to work through the most annoying, frustrating and downright horrible section of

whatever you do, please – don't send us any more complete solutions to *Another World* – we're in grave danger of getting into a *Lemmings*-type "they're eating everything and anything in their path" situation.

the game. Walk right and fall down. Turn and fall again. Walk right and jump off the anvil-shaped rock. Run up to the edge – where the skeleton is – and jump over the spikes on the ground.

Walk very carefully into the next scene and stop. Get used to the timing of the falling boulders and run past them – stop about halfway across the screen – see screenshot. Time your run past the second set of boulders and edge carefully onto the next screen.

Wait for the two left-hand boulders to fall at exactly the same time before you run past them. Time your run past the third boulder, then walk left up the slope – the boulders can't get you here. Shoot the tentacles so they retract, then run past them. Stop as soon as you get to the next screen.

This next bit needs some skill. You need to run past the first set of tentacles so they can't grasp you and jump over the first mouth in the ground. Jump carefully over the next two mouths.

On the next screen, blast all three sets of tentacles with a high-energy ball. Now you need careful positioning to jump over the first mouth and land in the gap in between the sets of mouths. When you make it, edge right up to the left-hand side of the next two mouths – but not too close. You need to experiment to get it right. Do one single jump over both mouths and, with a bit of luck, you should clear them.

Edge onto the next screen and jump over the gap but make sure you don't land in the mouth. Run right and you find the reward for all that effort – a closed door. Blow it up – it's important later.

LEVEL SIX: EDIL

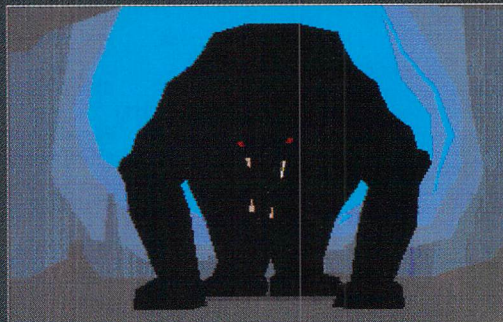
Now you have to go back the way you came. It should be a bit easier this time because the tentacles have gone. Go back to the screen with the left-facing slope and walk up it, avoiding the tentacles. Go left and shoot at the bird to disturb it – it flies into the tentacles. Jump off the edge and grab onto the stalactites. Jump left, grabbing the stalactites. On the final one, jump off left again and you land on the anvil rock.

LEVEL SEVEN: FADK

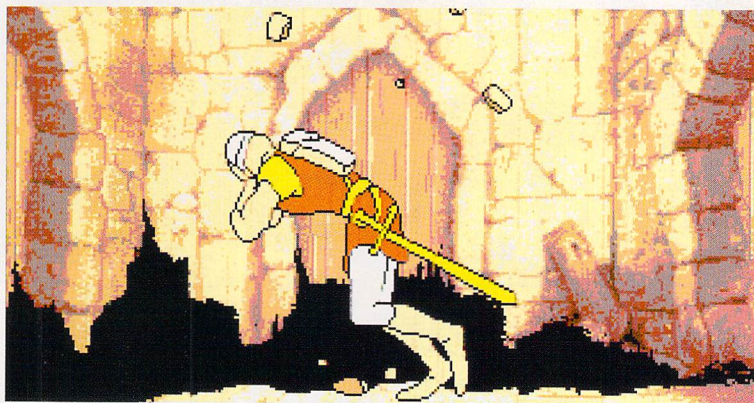
This is another bitch of a level. Walk left and fall off the rock. Blow up its support with a high-energy ball. It tips up – walk up it and off the screen on the right. Walk right, jumping over the pits, until you reach the screen with a lake of water above your head.

The next bit needs to be done very quickly. Blast the rock support and immediately start running left – the water's after you! Jump the pits while still running and keep going until you get back to the screen with the small plank over the gap. Run onto this plank and the force of the water should blast you upwards.

● Les does his hilarious impression of a fish. Well, a fish which has had its gills removed and replaced with a complicated system of machinery that means it can only breathe oxygen, actually.



● "Ah. Hello. Look, I'm terribly sorry to bother you and all that, but – er, I'd rather you didn't. Thing is, you see, I've sort of built up a rapport, an understanding if you will, with my arms over the years, and – er, well, they really are quite useful. Sorry? Yes, all right. Silly idea really. Er – bye then."



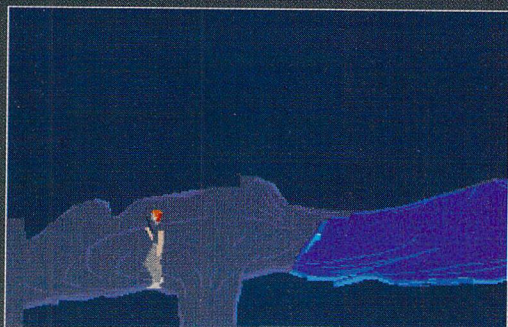
● Tense, nervous headache? Perhaps, Mr so-called Dirk, you should stop those all-night drinking sessions with that robot from *The Killing Game Show* and those flippin' lemmings. I mean, pigging out at the ST Games Characters' Convention is all very well, but you still have to work the next day, y'know.

LEVEL EIGHT: KCIJ

Walk up the slope and blast the door. Run right up the stairs. Turn and run right through two screens. Jump over the steps. Put up a shield and shoot the guard. Run back the way you came. At the bottom of the stairs run right until you reach a room with hanging lights. Blast the guard that appears, then go back up to the top of the stairs on this screen. Shoot the chain to release the hanging light. Run back the way you came again to get back to the stairs where you shot the guard. Go right and run after the guard that runs away from



you by going right again. Stop before reaching the double doors and edge forward slowly. Put up a shield and edge forward – do this until the doors open. When they do, go left so they close again. The guard wangs an energy ball at you, but it bounces off the door and back onto him, blowing the hell out of him. Run through the doors and blast the next one. Enter the recharger, go down again and go right. Now shoot the green glass ball just when the guard who's walking about below it stops beneath it. You can see his reflection moving about on the bowl of the glass. Crouch down and get ready to shoot – when he's directly below it, shoot (and relish the sound effect). If



● Lester was cool. He knew there was a huge blue wibbly monster sneaking up behind him which was about to rip his head off and drink the hot pulsing blood from the severed stump of his neck. Did he care? Of course he bloody well did – wouldn't you?

you miss him he shoots at you and you should start the level again.

Run left again and down the steps. Drop through the beam and attempt to go right. The guard knocks you onto the floor and picks you up. Kick him in the soft bits and immediately run left. As you run over the gun, crouch down and you should roll, picking up the gun. Shoot immediately to kill the guard – you need to be quick. Run off right, but use jumps instead of runs – they're quicker. You should reach the right of the screen just as the guard biffs you. Never mind, you're okay.

● Without a moment's thought, Lester uses the old Zen technique known as Ty – a process whereby the practitioner instantly sheds every molecule of his being except his skeleton to confuse the other party into thinking he's dead. Unfortunately he hasn't quite mastered the reverse process of Shi. Oops.

LEVEL NINE: FLAK

Jump into the water and swim downwards through the door you blasted earlier – told you it'd be useful. Swim along until you reach the screen with two upward exits. Swim to the top of the left upward exit to get some air, then go back down and down again. Swim over to the ledge next to the power line, climb out and blast the line. Take a deep breath and swim all the way back, not forgetting to get some air at the same place on the way back.

LEVEL TEN: LDCI

Climb out on the right and run past the guard you pulverised earlier. Drop through

the hole in the floor. Immediately blast the right hand door and run right. Keep running like hell to avoid the blasts coming from the left.

When you get to the dead end, stand under the trap door in the ceiling and put up a shield to your left. Replenish the shield until your friend bashes through the trap door and lifts you up through it. Then go right into the big black ship thing.

LEVEL ELEVEN: LALD

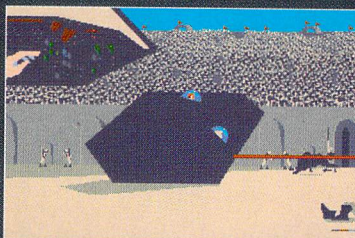
Just press all the buttons you can see, until a couple appear in the top left. Press these and you shoot off in the escape capsules.

LEVEL TWELVE: LFEK

As soon as you land and step out of the capsule, run right. In the next screen immediately put up a shield and kill all three guards that try to shoot you. Make sure they're all dead, then run right.

Keep going right until you fall off the ledge. You're grabbed by the nasty guard and thrown back onto the ledge. When your friend and the guard start fighting, immediately crawl right to reach the levers.

When the guard has won and is advancing towards you, wait until he's directly under the skylight and pull the first lever. He gets blasted. Pull the second lever to open the skylight and start crawling left straight away. Keep going until you're sucked up through the skylight, then crawl right until the end sequence starts. And – er, that's it.



● If you have model NV-1166, press button A followed by buttons G-R, (excepting J and M, if you are operating in the Southern Hemisphere). Otherwise see directions 4-20, pages 2-3, in the booklet available from your local retailer. Thank you for sticking with this caption. (That's it. That's the end. Wasn't very good, was it?)

DRAGON'S LAIR: ESCAPE FROM SINGE'S CASTLE

READYSOFT

Try this lot and see where they gets you:

SCENE ONE: When the floor starts to crumble away, press the right cursor.

SCENE TWO: As Dirk turns to face the fire, press the down cursor. When Dirk has jumped press the up cursor to jump the fire, then press up again, and finally press the left cursor to go through the door.

SCENE THREE: When Dirk's approaching the fire, press the right cursor and, as he is

just about to come off the horse, press the left cursor

SCENE FOUR: Press the up cursor as the stairs fall away and press it again as the stairs fall away again.

SCENE FIVE: Press <Fire> when the scene starts and Dirk takes his sword out. Press <Fire> again in order to strike the flying sword. Press the left cursor to dodge the anvil.

SCENE SIX: As Dirk says "Uh oh," press the right cursor. When Dirk is swinging, press right again every time his left hand comes off the rope.

SCENE SEVEN: Press the left cursor when the pot of gold flies past. Press it again to dodge the Lizard King's shaft. Press the right cursor at the end of the corridor. Press <Fire>, left, right, down, and <Fire> to kill the Lizard King.

SCENE EIGHT: When Dirk turns towards the door, try pressing the right cursor. As the monster appears and Dirk jumps in fright, press the down cursor. Then press <Fire> to kill the monster.

SCENE NINE: As Dirk climbs up the trap door, press <Fire> to kill the first goon. Then press the right, right, up and left cursors to enable you to climb the stairs and exit the room in one piece.

SCENE TEN: Press the down cursor as soon as the scene starts. When Dirk is about to jump a geyser, press the right one. Press the right again to run between two geysers. Press the up cursor to jump another geyser, press left to jump the river and then press right to jump to safety.

SCENE ELEVEN: Press the down cursor to run away from the gate.

SCENE TWELVE: Press <Fire> as your reflection changes to kill the monster.

SCENE THIRTEEN: Press the right cursor as Dirk turns towards a grave. Press up to dodge another hand. Press the left to dodge another and press right to exit.

SCENE FOURTEEN: Press the up cursor to exit from the thorns.

SCENE FIFTEEN: Press the right cursor as the scene starts and then the left as the lightning hits the ground beside you. Press up to leap onto the stairs. Press right as the lightning hits the stairs next to you. Press up to jump from the crumbling stairs, press up again to dive in front of the Shapeshifter, then press <Fire> when you're in front of him. This makes Dirk throw his sword into the Shapeshifter and kill him. Now wait for the end of game sequence.

FUN COMPS!

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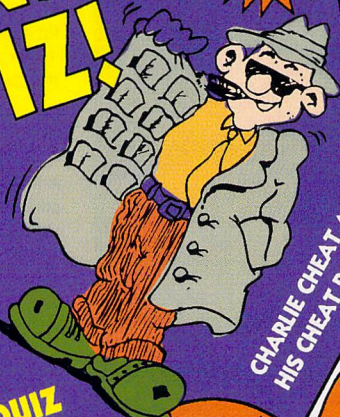
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VICTORIA SNOTTY
SHE'S SO STUCK UP!

NEW

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THE LYING PERSON!

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NEW

Calls cost 36p (cheap rate) and 48p (at all other times) per minute inc. VAT. Please ask permission before you call. Winners will be notified by post at the close of the competition. A winners list or a full list of rules is available by sending an SAE to: Megafone, Sandylands House, Morecambe, Lancs LA31DG. The maximum length of call is approximately five and a half minutes which will cost £1.98 at cheap rate. Competitors are required to answer multiple choice questions and a tiebreak answer.

OH NO! MORE LEMMINGS

PSYGNOSIS

We knew that it was going to happen. It last happened with the original *Lemmings*. Page upon page of level codes, swamping the office... bulging from every drawer... escaping through the crack under the door... teetering precariously in a huge pile... well, you probably get the idea. So,

look, send us anything - anything - else, but please, no more level codes for *Oh No! More Lemmings*. Our sanity depends on it. Thank you. Anyway, here are the little blighters: the complete level codes, for once and for all, from Robert Gilmour of Dunfermline.

TAME

1. DOWN AND OUT LEMMINGS
2. RENT-A-LEMMING
3. UNDERCOVER LEMMING
4. DOWNWARDLY MOBILE LEMMINGS
5. SNUGGLE UP TO A LEMMING
6. INTSY BINTSY... LEMMING?
7. WHO'S THAT LEMMING
8. DANGERZONE
9. AND NOW THIS...
10. NEW LEMMINGS ON THE BLOCK
11. WITH COMPLIMENTS
12. CITIZEN LEMMING
13. THUNDER-LEMMINGS ARE GO!
14. GET A LITTLE EXTRA HELP
15. NOT JUST A PRETTY LEMMING
16. GONE WITH THE LEMMING
17. HONEY, I SAVED THE LEMMINGS
18. LEMMINGS FOR PRESIDENTS!
19. LEMMINGS PRODUCTIONS PRESENT...
20. CUSTOM BUILT FOR LEMMINGS

NO CODE

1. IHRDNDCCAD
2. LPTDJBADAJ
3. RTDNCILEAJ
4. TDNCAITFAR
5. DNCIHVTGAL
6. NCALVTDHAI
7. BILTDDJIAK
8. BAHPUJJAM
9. IHPUDJBKAF
10. LPUDJBALAS
11. PUDJBILMAL
12. UDJBAHTNAE
13. DJBIHTUOAN
14. JBALTUDPAK
15. BILTUDJQAD
16. BAHPTFJBBG
17. IHPTFJBCBP
18. LPTFJBADBM
19. PTFJBILEBF

CRAZY

1. QUOTE "THAT'S A GOOD LEVEL"
2. DOLLY DIMPLE
3. MANY LEMMINGS MAKE LEVEL WORK
4. LEMMING EXPRESS
5. 24 HOUR LEMATHON
6. THE STACK
7. AND NOW, THE END IS NEAR
8. KEEP ON TRUCKING
9. ON THE ANTARCTIC COAST
10. ROCKY VI
11. NO PROBLEMING!
12. LEMMING FRIENDLY
13. IT'S A TRADE OFF
14. TIME WAITS FOR NO LEMMING
15. WORRA LOAD OF OLD BLOCKS
16. ACROSS THE GAP
17. DIGGING FOR VICTORY
18. NO PROBLEM
19. DON'T PANIC
20. ICE ICE LEMMING

1. TFNCAHVFBF
2. FJBIHTTGBH
3. JBALTTFHBE
4. BILTTFJIBN
5. CEIRWNJJBR
6. MIRWNJCKBK
7. MPWNJCALBR
8. RUFNCILMBF
9. UFJBAHTNBH
10. FJBIHTUOBQ
11. JBALTUFPBN
12. BILTUJQBG
13. BAHPTDKBCG
14. IHPTDKBCCP
15. LPTDKBADCM
16. RVLOBILECF
17. TDKBAHTFCO
18. DOCITTCGN
19. KBALTTDHCE
20. CILTLKICG

WILD

1. POP YOR TOP!
2. LEMMING HOTEL
3. LEMMING RHYTHMS
4. MEETING ADJOURNED
5. LEMMING HEAD
6. JUST A QUICKY
7. YOU TAKE THE HIGH ROAD
8. IT'S A TIGHT FIT!

1. BAHPUKJCP
2. IHRUDOCKCP
3. LPUDKBALCF
4. PUDKBILMCO
5. UDKBAHTNCH
6. DKBIHTUOCQ
7. KCALTULPCG
8. CILVUDOQCN

9. ICE STATION LEMMING

10. HIGGLEDY PIGGLEDY
11. MUTINY ON THE BOUNTY
12. SNOW JOKE
13. ONWARD AND UPWARD
14. ICE SPY
15. THE SILENCE OF THE LEMMINGS
16. TAKE CARE SWEETIE
17. THE CHAIN WITH NO NAME
18. LEMMINGGOOD
19. LEMMINGDELICA
20. GOT ANYTHING... LEMMING???

- CAIRTFKBDN
- IHPVFOBCDI
- LPTFKBADDP
- PTFKBILEDI
- TFKBAHTFDR
- FKBIHTTGDK
- KCELVVNHDI
- BILTTFKIDQ
- BAHPUFKJDS
- IHPUFOCKDQ
- LPUFKBALDI
- PUFKBILMDR

WICKED

1. LEMMING TOMATO KETCHUP FACILITY
2. INTRODUCING SUPERLEMMING
3. THIS CORROSION
4. OH NO! IT'S THE 4TH DIMENSION
5. CHILL OUT!
6. POP TILL YOU DROP
7. LAST LEMMING TO LEMMINGCENTRAL
8. A TOWERING PROBLEM
9. HOW ON EARTH?
10. TEMPLE OF LOVE
11. ROCKY ROAD
12. SUICIDAL TENDENCIES
13. ALMOST NEARLY VIRTUAL REALITY
14. THE LEMMING LEARNING CURVE
15. SPAM, SPAM, SPAM, EGG AND LEMMING
16. FIVE ALIVE
17. DOWN THE TUBE
18. LOTS MORE WHERE THEY CAME FROM
19. UP, DOWN OR ROUND AND ROUND
20. THE LEMMING FUNHOUSE

- UFKBAHTNDK
- FKBIHTUODD
- KBALTUFPDQ
- BILTUFKQDJ
- FAHPTDJBEL
- MHRTLJGCED
- LPTDJFADER
- PTDJFILEEK
- TDJFAHTFED
- DJFIHTTGEM
- JFALTTDHEJ
- FILTTDJIES
- FAHPUDJJEE
- IHPUDJFKEN
- LPUDJFALEK
- PUDJFILMED
- UDJFAHTNEM
- DJFIHTUOEF
- JFALTUDPES
- FILTUDJQEL

HAVOC

1. TUBULAR LEMMINGS
2. BE MORE THAN JUST A NUMBER
3. IT'S THE PRICE YOU HAVE TO PAY
4. THE RACE AGAINST CLICHÉS
5. THERE'S MADNESS IN THE METHOD
6. NOW GET OUT OF THAT!
7. CREATURE DISCOMFORTS
8. LEMMING ABOUT TOWN
9. AAAAAAAAAAAAAAAAAGGGGGGHHHHH!!!!!!
10. FLOW CONTROL
11. WELCOME TO THE PARTY, PAL
12. IT'S ALL A MATTER OF TIMING
13. HIGHLAND FLING
14. SYNCHRONISED LEMMING
15. HAVE AN ICE DAY
16. SCALING THE HEIGHTS
17. WHERE LEMMINGS DARE
18. LEMMINGS IN A SITUATION
19. LOOKS A BIT NIPPY OUT THERE
20. LOOK BEFORE YOU LEAP

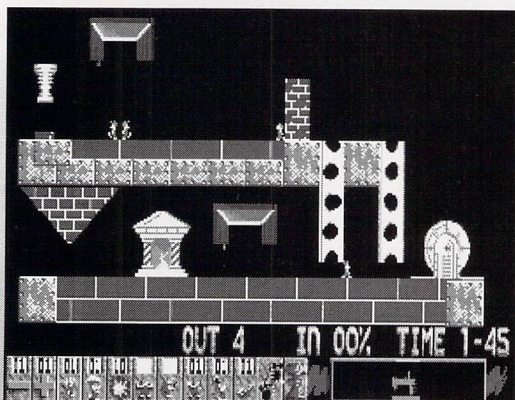
- FAHPTFJBFO
- IHPTFJFCFH
- LPTFJFADFE
- PTFJFILEFN
- TFJFAHTFFG
- FJFIHTTGFP
- JGAMVTNHHI
- FILTTJIFF
- FAHPUFJJFH
- IHPUNJGKFJ
- LPUFJFALFN
- PUFJFILMFG
- UFJFAHTNFP
- FJFIHTUOFI
- JFALTUFPFF
- FILTUJQFO
- FAHPTDKBGO
- IHPTDKFCGH
- LPTDKFADGE
- PTDKFILEGN

TWO PLAYER CODES

1. THE DUEL
2. MATCH OF THE DAY
3. CONFRONTATION
4. THE ONLY WAY OUT
5. SHOWDOWN!
6. TEST OF SKILL
7. GIVE AND TAKE
8. CO-OPERATION
9. ONE ON ONE
10. I WANT IT ALL

1. JAHPTDKBKG
2. IHPTDKJCKP
3. LPTDKJADKM
4. PTDKJILEKF
5. TDKJAHTFKO
6. DKJIHTTGKH
7. KJALTTDHKE
8. JILTTDKIKN
9. JAHPUKJKP
10. IHPUDKJJK

● *Lemmings*? Don't talk to me about lemmings. Darn things get everywhere, leaving their codes behind them. We've had the exterminators in twice but they're still spreading. Why don't the council do something about it - how about a *No Lemmings Day*? Grumble grumble winge winge...



KNIGHTMARE

MINDSCAPE

THE FOREST

Andy Norman of Benfleet has stormed through the first three levels of this *Dungeon Master* – er, homage, and has decided to share his gathered wisdom with us. **Coo.HINTS**

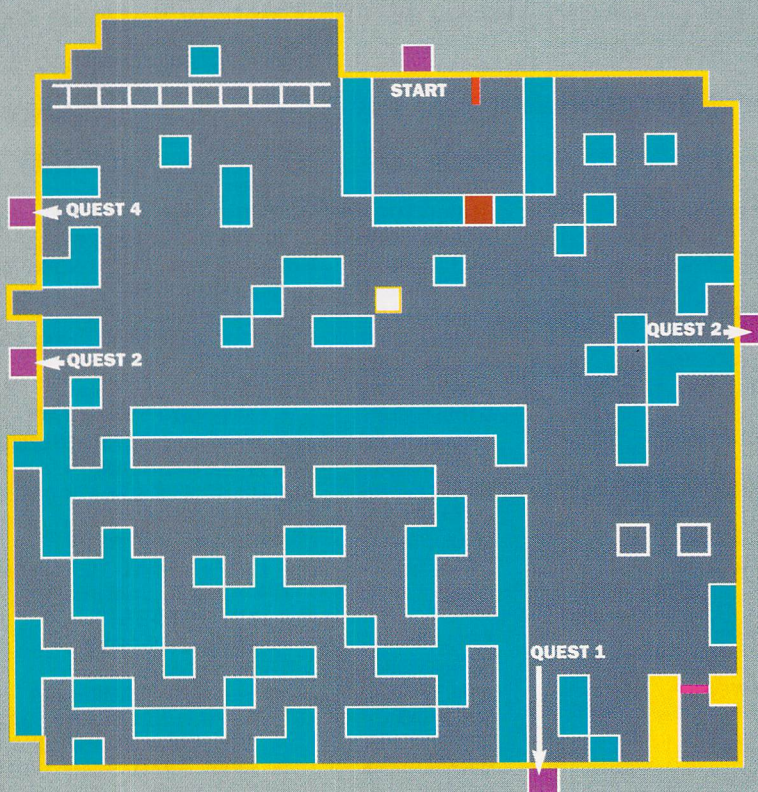
HINTS

Don't use the key until you have got the two pen knives.

On your first train ride, jump off the right-hand side before the wall and you find some more clothes. But watch out! If you are fed up with rabbit pie, dig up the purple flowers for something sweeter.

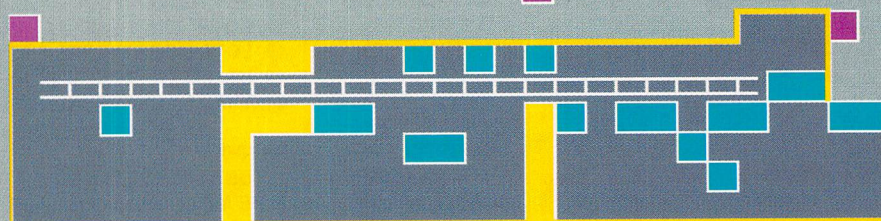
HIDDEN IN THE FOREST ARE:

Two pen knives
One T-shirt
One pair of shorts
One pair of sandals
One key
One spade
One stick

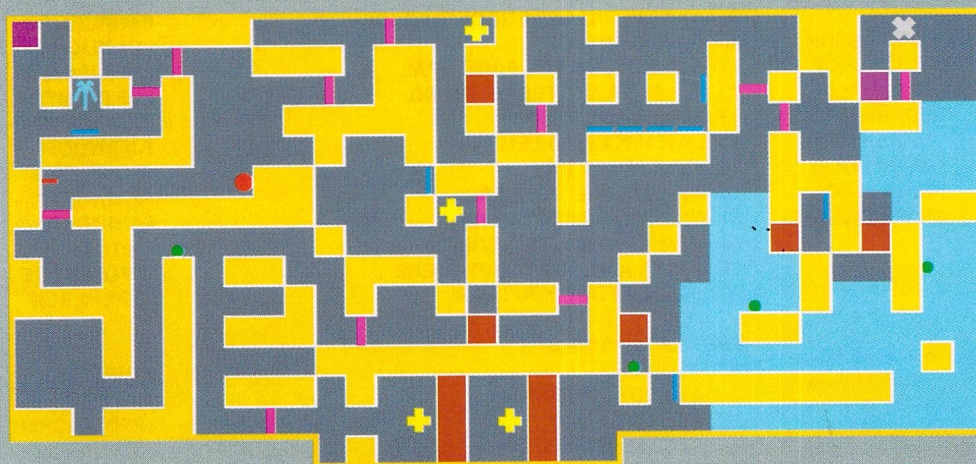


KEY

- MOVEABLE HEDGE
- HEDGES
- TRANSPORTER
- WALL
- HOLE UP OR DOWN
- DOOR
- LEVER
- CUPBOARD



QUEST 1



HINTS

Don't walk on water – find a boat. Don't operate levers until you've looked behind all doors. Don't leave without two wands.

SOLUTION TO THE KNIGHTMARE COVER DISK DEMO

If you're struggling with the Cover Disk demo of *Knightmare*, let alone the full game, have a shufti at this complete solution which suggests what you should do in each room from Gavin Parish of Cornwall.

1 You start here. Just collect all the gear from the cupboards and give the crossbow and three-pronged knife to the people in front.

2 The goblin in this room is easy to kill. Just lure him into a doorway and close it on him several times, or shoot him with your bow.

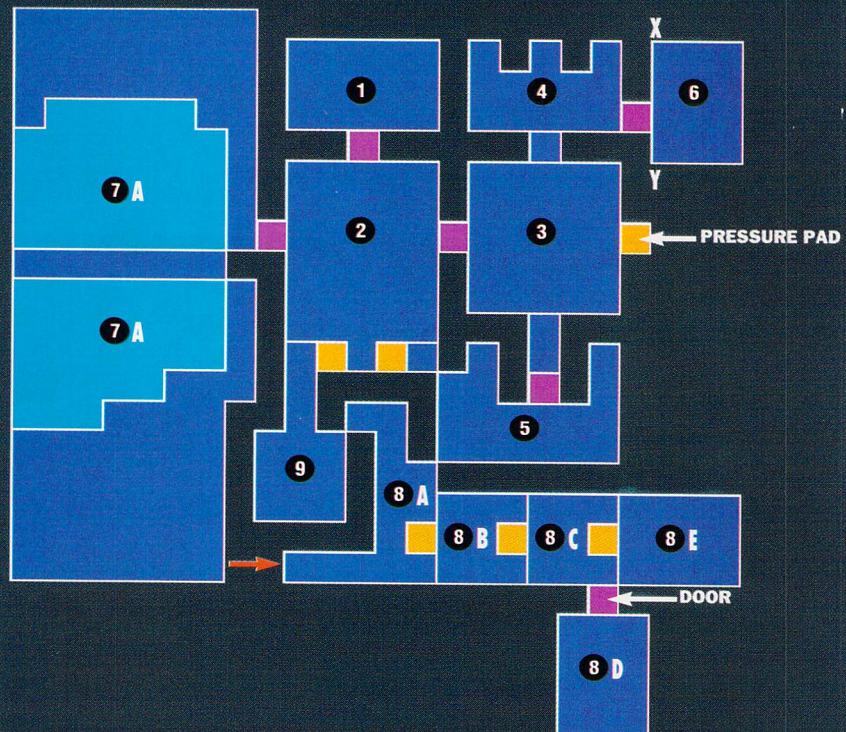
3 4 5 When you enter the room, go straight to the pressure pad and then up into room four. Kill the goblin and take the key. Go back to the third room and use the pressure pad. Go down and open the door into room five by putting the key in the lock. Kill the goblin, take his key, go back to the pressure pad and then up to room four. Open the portcullis via the key in the lock. Kill the two ogres.

6 When you enter this room, run straight towards the cupboard or you get caught in the fire trap at points X and Y. Open the cupboard, take the dice and go back to room two.

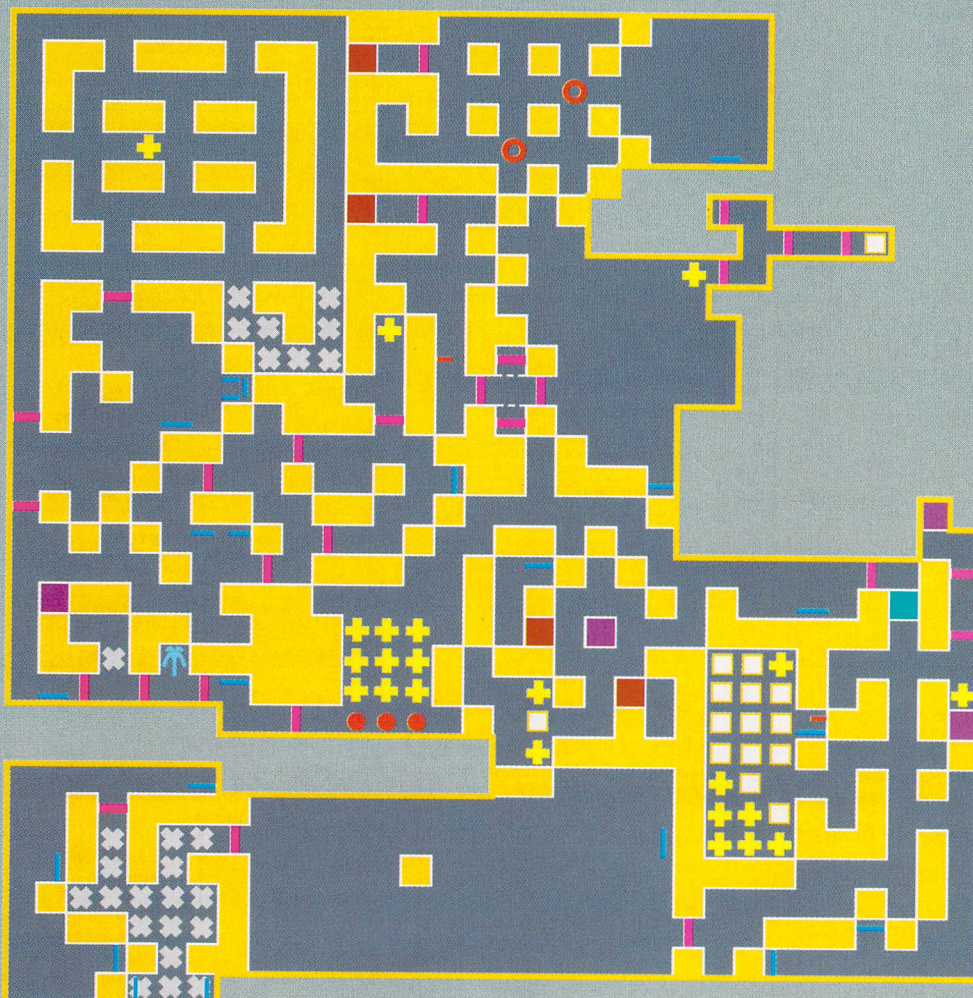
7 Row across the first half of the lake, then across the other. Don't try killing the sharks because it takes too long. Go straight to the black portal in the corner once on the other side.

8 Step on each pressure pad in turn and then run into room 8D as soon as you step on the last one. Don't open or go near the cupboard because it's only a trap and kills you. Instead, use the door to crush each of the four goblins in turn.

Return to room two and place each of the die on the two pressure pads. Throw back the switch that appears and lure the witch into a doorway, crushing her in it and occasionally shooting. Then, to finish off the game, kill yourself, and you've done it.

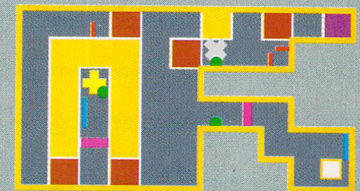


QUEST 2



KEY

	TRANSPORTER		HOLE UP OR DOWN
	WALLS		FIREBALL LAUNCHER
	MOVEABLE WALLS		HIDDEN SWITCH
	WATER		LEVER
	WALL ON ROLLERS		FOUNTAIN OF LIFE AND DEATH
	SECRET PASSAGE		CUPBOARD
	PRESSURE PAD		DOOR
			TWISTER



ROBIN HOOD

MILLENNIUM

Gerald Manzanero of Port Talbot has sent in all this lot on Millennium's disappointing RPG.

There is no specific route to winning the game because of the way the world works. You cannot predict exactly where people are going to be at any particular point or how they may be feeling towards you. However, here are some general dos and don'ts you could adopt for a winning strategy...

1 DON'T GET CAUGHT!

After committing two crimes – either robberies or killings – Robin is outlawed. He's then arrested on sight. Further crimes lead to your Merry Men being outlawed as well. Be naughty just one time too many and the Sheriff puts a price on your head. Once this happens, almost everyone is tempted to turn you in and claim the reward money. Don't draw a bow in sight of any of the guards since this is illegal and results in you being arrested!

A disguise is available from Friar Tuck, but first you have to meet him. Note that the fat monk makes frequent trips from the monastery to the castle. On his return, he is usually carrying some gold. You should rob him of his gold and give this to the poor – of course! Friar Tuck flees for quite some distance and can be found moping on the ground.

Speak to him at this point and he explains that he cannot possibly return to the Abbey without the gold. He joins your cause and gives you the cloak. You cannot be recognised while you're disguised as a monk, but do be extremely careful not to drop it by shooting at an inappropriate moment.

2 WEAPONRY

Occasionally, you see a small ring of dots on the grass. Luckily for you, these are magic mushrooms. Use the Take button to pick them. The mushrooms can bring an ally back to life, but you must use them before they're buried. Mushrooms may only be used once, but some grow elsewhere.

The Sword Give and Take icons can also be used on the Merry Men, but they then have the effect of issuing orders to the men to either give money away, rob someone on your behalf or go and find a Norman to kill. Archery practice speeds up Robin's reload time when he's shot an arrow. Practice literally does make perfect – well, maybe not perfect, but faster at the very least.

When you're robbing the merchant, he usually succumbs after one attempt, but if you're accompanied by a Merry Man or two he'll probably give up the dosh straight away. Don't rob people if they're close to any guards.

To escape from any guards, you might try struggling with the Sword icon or using your gift from the dragon. Alternatively, blow your horn and summon the Merry Men to rescue you. Either way, try and avoid being released inside the castle

and run like mad as soon as you get free. If all else fails, you could always have a go at bribery.

3 BITS AND BOBS

Archery practice naturally enough increases the rate at which Robin can fire arrows. The guardian of the island is no use as a corpse. Don't sit back and let the poor peasants hang. Rescue one and he could well become a close personal ally.

Remember not to neglect the fair Maid Marion – she's very pretty and gives you a ring after three conversations because she's that kind of girl. You have to speak to her three times before she finally falls in love with you. The ring enables you to look into the hearts of other characters.

Peasants get hungrier in winter, so make sure you've got some money to give to beggars. Once you've recruited Little John, subsequent visits to his island enable Robin to put his feet up. Other Merry Men normally return to the island after a mission. The Duck talks a load of old rubbish. Perhaps our feathery friend should learn exactly what it means to be a sitting duck?

Empty bellies make for poor warriors, so make sure the underdogs aren't underfed. If you're not seen as a hero when you win the castle back, you might as well not have bothered. Killing the evil Sheriff of Nottingham is going to scare the guards no end. Their first thought will be to find a place of safety – you should get there before them.

4 SLAYING THE DRAGON

Dragons may be extremely bad tempered and violent but did you know they can talk? Slaying the dragon gains a high heroism rating but he needs to be hit twice. So run like hell after you've fired your first shot. He chases you for some time, but eventually gives up and creeps home. Then go back and have another crack. Dragons never let it lie! Once he's been wounded, he heads for you every time he sees you.

Just in case you can't hack it as an outlaw, here's the cheat mode. Press the <Alternate> key followed by any of the bracketed numbers below for the desired effect. There are a few more hidden features and tricks that are not listed, so try and suss them out for yourself. Best of luck in your mission!

- (370) Outlaw stag hunting
- (371) Outlaw Robin Hood
- (372) Outlaw Merry Men
- (373) Put a price on Robin's head
- (441) Cycle through the seasons
- (213) Move to island near Little John
- (214) Move to spring near Wizard
- (659) Make Merry Men join up
- (103) Marian falls in love
- (166) Maximum heroism
- (167) Minimum heroism
- (828) Legalise Robin Hood
- (666) Cause a church service!

EXILE

AUDIOGENIC

Some general tips from Ted Webb of Hampshire.

Use the teleport facilities a lot – they're life savers.

At the start of the game, don't waste a grenade blowing up the door that leads to another grenade. Go and do something else, then come back later using a teleport save. With any luck, a meteor storm will have blown it open.

As a power pod goes straight into your jetpack supply, before you pick one up put some jetpack energy – if it's full – into a weapon. Otherwise you waste the power pod.

Give the frogs to the imps. You're then given a torch – not the electric kind. Stick it in a fire to light it, and whack it into water to extinguish it when you want to put it away.

The easiest way to kill the droid that follows you around and fires white bullets – he's by the transporter – is to dive into the lake where the frogs were. While he's following you, he short circuits. Fortunately, this doesn't happen with Chatter.

The two early pass keys are quite easy to get. Take a green little bird and try and get him to follow you up to where the bees' nest is. The bird flies around the nest and eats any bees that are near it, leaving it safer for you to nip down and get the key which is just below the nest.

The other one is far over to the left. Above a large cavern there's a gap over which blows a very strong wind. Angle your gun at the key which is just to the right on the floor. Then try to shoot it, and the chances are that, if you hit it, the wind will sweep it away and, by being blown too, you'll soon find it. To get the whistle for Chatter is

quite hard. It's above right over the imps in a small cave under the aim of a gun turret. Once in the water below the gun, you need to get a grenade out and aim it into the passage. Throw it in and fire at it, knocking it further towards the whistle. When it explodes – if you're lucky – it blows the whistle through the gap and you can then easily pick it up.

A final tip: if you catch one of the mushrooms, the imps lurch at you and quickly store it in your pocket. You can then hold it over a fire where it turns into a small piece of radiation. It explodes like a grenade but with no priming – be careful!

PANZA KICK BOXING

US GOLD

On the menu screen enter your name as PANZA. This enables you to change all the statistics to 99% and win the game. Thanks to **Henry Spencer of Lynchford** for that.

PIT FIGHTER

DOMARK

When playing, type LOBSTERS and then press keys 1 to 0 to go to any level you want. Also press C to go straight to the championship match and L to visit the elimination match. From **Lee Marsh of Basingstoke**.

TERMINATOR 2

OCEAN

Pause the game, and press key F1-F10, then restart and press <Escape> in order to jump to the next level. Well, that's according to **Andrew England of Cheshire**, anyhow.

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Who'd have thought that such an apparently random collection of letters as BURAI would enable you to access level E of GEM'X? Well, it does! If you've any weird and wonderful words that enable you to access higher levels, tips, cheats, short cuts, infinite lives pokes, passwords, map – anything at all you've found that helps you get more from your ST game-playing – we want to hear about it! That way you can share your tips with well over 65,000 fellow ST enthusiasts, and possibly win **FORMAT's** monthly prize of £50. It doesn't have to be a complete solution or anything – whatever you've got could be the answer to a fellow ST game-player's prayers!



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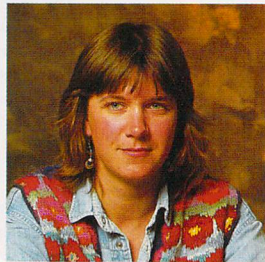
It's got big words. It's got small words. It's carefully crafted, slaved over by hundreds of people in a never-ending quest to get everything just perfect. In fact, in some ways it's a bit like Screenplay, only without the slightly pink sheen and the amusing comedy breasts

THE ST FORMAT REVIEWERS — For best results, keep 'em in the dark and feed 'em plenty of... er, food



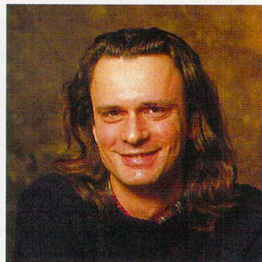
ED RICKETTS

Man of the Match. Yes indeed, Ed's Swan Vesta is famous the length and breadth of — well, his head, really. Ambition: to spell "manoeuvre" right.



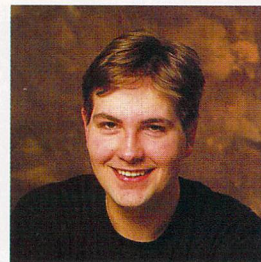
PAULA RICHARDS

Unfortunately, Paula is slightly mad, but she only acts oddly in the presence of Finns, Swedes or those plastic caps you take off new razors.



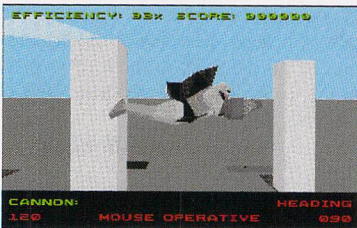
CHRIS LLOYD

Chris is a London lad, so he can often be heard madly bawling, "Apples and pears! Stewth, knock it on the head, my son! Do what? Turn it up!" and so on.



JAMES LEACH

User-friendly, but apt to crash if goaded too much about his dubious history. Many people have died enquiring "How's the spleen these days?"



ROBOCOP 3

What was Robocop's catchphrase again? Something like "Stop, miscreant, or I'll invoke Byelaw 3223.B (Traffic Act) before you can say 'But, guv, it was a frame-up job. I was set up something rotten.'" Not quite "Hasta la vista, baby," is it?

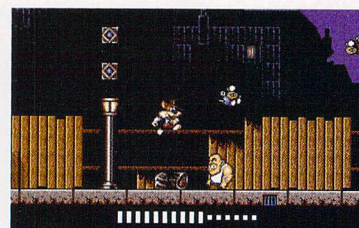
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ELVIRA - THE ARCADE GAME

Let's get camp and gothic here for a minute. Put on that black gown! Smother those eyes in mascara! Play that Cure record! Frizz that hair! Hey, Elvira's been doing it for years — at least since the original Addams Family TV series finished, anyway.

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TITUS THE FOX

Now what's that other game called? *Something the Something. Robert the Cabbage? No. Mark the Porcupine?* That's closer. *David the Colander?* That was it... no, hang on, it was — *Sonic the...* well, anyway, *Titus* is nothing like that at all. Really.

page 96



BUDGET ROUNDUP

Budget games? Ha! We can remember when "budget" meant £2.99, not £9.99. Still, what else can you get for under a tenner these days? (A budget-priced CD. Several trips to the cinema. A cheap video. Quite a bit of petrol. 1,000 penny chews.) Yes, but apart from all that? See, you're stuck now!

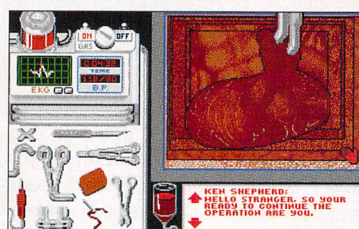
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KNIGHTS OF THE SKY

Yep, they were real planes in them days, back in the First World War. Many's the time I laughed heartily as I shot my propeller off again and plummeted earthward with only the threat of certain death to comfort me. But we were happy then.

page 110



FIVE WEIRD GAMES

These babies are out of the Odd Zone and nudging up to the Bizarre Area. 'Course, none of these is as weird as the game the Ed wrote yonks ago... but that's another story.

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RUN UP A FLAGPOLE THIS MONTH

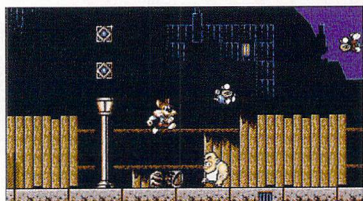
(metaphorically speaking, natch)

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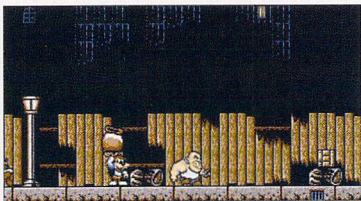
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● It is *ST FORMAT* policy to review only finished games — that is, the games you could actually buy in the shops — never incomplete or demo versions.

● We review *all* games released, but *only* when they are finished. We won't be rushed into reviewing unfinished games to beat our "competitors."



● **Meet Montgomery.** A poet, a priest, a famous doctor and a philanthropist. These are just some of the people whose heads he's punched today.



● Perhaps the French are having *un petit dig* at our plucky football fans with these mocking characterisations. Or perhaps not. Stay tuned to find out...



● France isn't noted for its restless glacial upheavals, so it's not really especially surprising *Titus The Fox* is unencumbered by that sort of thing.

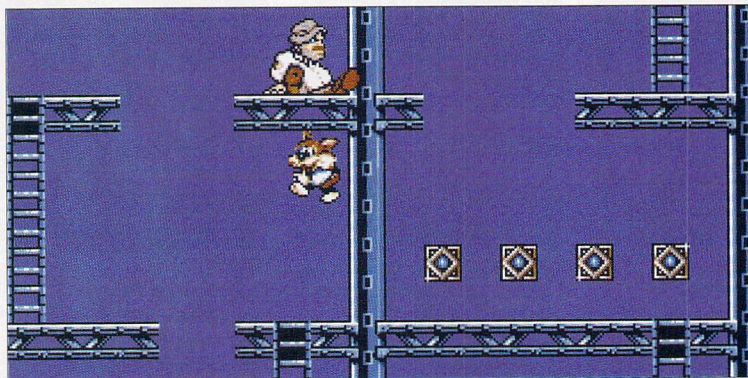


● It's difficult to say what these nasties are. But they do have large wooden mallets to whack you with. So their correct nomenclature is a bit irrelevant.



● Two-headed dogs are an evil portent – harbingers of destruction, you might say. But this might be two dogs running past each other, which is okay.

TITUS THE FOX



● Overcome with extra-life induced emotion in this 900 screen platform game, Titus leaps into the air searching for the harem his girlie's in. *Titus the Fox* is all about killing off the baddies and exploration in foreign countries.



● Titus! You wicked wicked – er, fox! Did you write your name on that fence? As punishment I'm sending you to spend a weekend with the Quorn Hunt.

limit, either, so you've got ample opportunity for exploration off the beaten track. This is made easier by the fact that you've got loads of lives. It's difficult to say how many because, as you travel around, you can collect loads more. In fact, you might even end up deliberately sacrificing a couple of lives to get into a secret room with plenty more. It feels unnatural, but it's all part of the gameplay.

VERDICT: *Titus The Fox* is actually rather good. The graphics are fast, smooth and very cartoony. Titus himself is a fluffy bundle of cuteness, with his cheeky grin and little trousers. All

the characters are beautifully animated, too, with loads of frames making them look slick and realistic. And there are over 50 different types of enemy.

The game is more flexible than many from this genus. You can throw objects, use them sensibly, get as many extra lives as possible or simply just try to solve each of the 16 levels. If you're brave, you can even pick up baddies and throw them at each other. Whichever way you choose to do it, there are loads of variations to explore and tons of stuff to collect and use.

A password system enables you to progress steadily through the game. Collecting special padlock tokens even



● This trolle grand (or big trolley) is an excellent weapon because it's entirely reusable and lead-free. The skateboard speeds Titus up no end, too.

enables you to restart very close to where you died. And all this is very heartening for people who are rubbish at games like this.

So, the graphics are great and the gameplay is fun. Is anything wrong with it at all? Yes. The music is dreadful. Thank goodness you can turn it off and retain the sound effects. Also, if you're a platform game fan, *Titus The Fox* might not be original enough for you. It's got some great unique features, but overall it feels a bit like an amalgamation of the best bits of most other platformers. *Avoirdupois*, as they say in Frenchie-land.

JAMES LEACH



TITUS THE FOX

TITUS – £25.99

- Feels like an improved *Blues Brothers*.
- Graphics are very pretty. Better indeed than *Blues Brothers*.
- More flexible and varied than *MegaTwins* or *Robocod*, and with a lot of humour (in the French style).
- Music is dreadful (like Jean Michel Jarre, (ha ha)).

STF RATING 85 %

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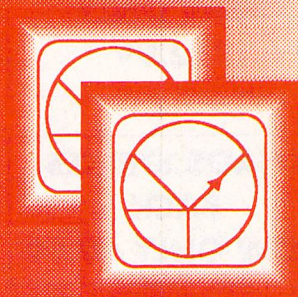
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The board is manufactured in the UK and hand assembled in our workshops by skilled technicians.

The boards are then thoroughly tested before despatch.

The board now comes in three configurations, 5Mb, 2Mb and 4Mb. It is possible to start with a 5Mb board and to upgrade it to 2Mb and then 4Mb at a later date.

The boards require some soldering, due to the instability of some plug in devices, but are very easy to fit and come complete with full instructions to fit ANY ST including Mega's (except STE's which use SIMM boards). If your shifter chip is not socketed, you will have to desolder it and install a socket which is supplied.

A memory check program is supplied and skilled technicians are on hand to offer technical support.

Monitors

Atari SM144 Mono £ 139.99

Atari SC1435 Colour £ 249.99

The new colour Atari monitor comes with cable and tilt monitor stand.

Protar Visto Col Mon £ 219.99

The Visto includes cable & 12 months on site replacement warranty.

Philips 15" Cube TV £ 269.99

A 60 channel, FST, Fasttext scart input TV which gives near monitor quality. Includes scart cable.

ST Secure

ST Secure is a security device which uses a combination of hardware and software to prevent unauthorised use of your ST. The 'Timeclock' hardware can be installed in your ST in approx 30 minutes with no soldering involved. Then when you switch on your ST you must enter the correct password using the 'Key disk' or your ST will reset after 45 seconds. **Only £25 inc VAT & Delivery**

St Internal drive £53.49

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Our technicians can carry out repairs to all ST's. Phone for details.

Golden Image

**Golden Image External
3.5" Drive £64.99**

Includes through port and LED track counter.

**Golden Image Hand
Scanner £149.99**

Includes Touch Up and Deluxe Paint Software.

Brush Mice

The Golden Image Brush Mouse is an opto/Mechanical mouse in the form of a brush. It has a resolution of 150Dpi, is switchable between ST/Amiga and costs **£19.99**. The Brush mouse also comes with the excellent Deluxe Paint software for just **£24.99**

Golden Image Optical Mouse £34.99

The Golden Image Optical mouse has a resolution of 250Dpi, comes complete with mat and is switchable ST/Amiga.

Jin Tech Mouse £12.98

High quality replacement ST mouse.

Printers

Star SJ48 Bubblejet £239.99

Star LC-20 £139.99

Star LC-200 colour £199.99

Star LC24-20 £199.99

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Star LC24-200 colour £289.99

All Star printers include 12 months on site warranty.

All printers include ST/Amiga/PC compatible Centronics cable.

Emulators

PC Speed,XT) £ 90

Please state STFM or STE version.

AT Speed £ 149

Includes DR DOS

AT Speed C16 £ 229

Includes DR DOS 5, Socket for 80C287 Co-Processor, Norton factor of 8.2

AT Speed-STE Adaptor £24.99

AT Speed-Mega Adaptor £ 24.99

Aries Upgrades (Any ST(F)(M))

512K Aries Board £ 39.99

2Mb Aries Board £ 99.99

4Mb Aries Board £ 169.99

Our skilled technicians can install the above upgrade boards for £20 including VAT and return delivery.

Aries Upgrades STE

512K SIMM's upgrade £ 19.99

2Mb SIMM's upgrade £ 74.99

Please check configuration of your machine with our staff before ordering SIMM's upgrades.

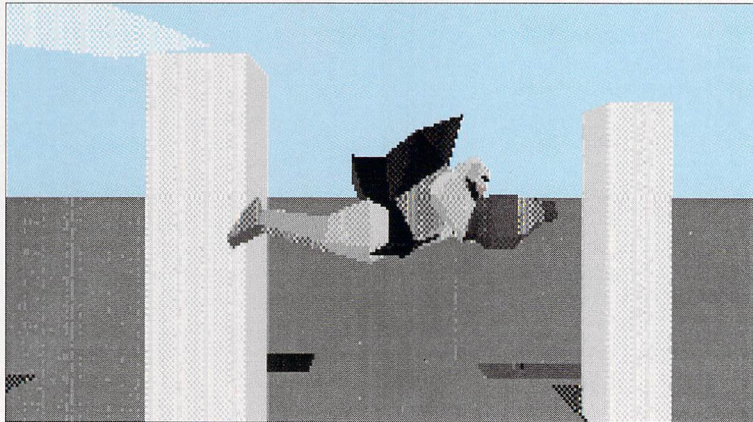
16/4 chip upgd STFM £ 29.99

Please check the configuration of your machine before ordering. These chips are not surface mount

ROBOCOP 3



The dust has settled. *Terminator 2* has been and gone. Things are relatively quiet again, and the world is prepared for the next violent and ruthless lawgiver to come along and shoot 'em up. Yes, it's Ed Ricketts again. Him or *Robocop 3*, anyway



● Faster than a speeding elk, stronger than several strong men combined into one big strong man, more wooden than Arnie – he's Robocop, and he's back for the third time in an orgy of mass destruction. Your move, creep (or something).

Let us, as is customary, have a small recap here. In 1987, three years after *The Terminator* first became a terminatee, the future film city of Detroit gained a lawman who (let's be honest) looked more than a little like the Tin Man from *The Wizard of Oz*.

This dude had the startlingly obvious name of Robocop, and went on to star on T-shirts, mugs, cereal packets and ST games everywhere. Not very good ST games, actually, so when Ocean announced they had the licence to the as-yet unreleased third film in the

They've roped in Robocop to move the people along, which causes not inconsiderable confusion in the old silicon brain



● In the Movie game, each section is preceded by a short animation showing Robo driving/flying/walking/crawling to wherever he's needed next. If only the rest of the 3D sections could have the detail of these backdrops...

Robo series, thoughts flitted through gameplayers' minds everywhere of yet another scrolly jumpy runny shooty platform game. Boy, as they say in old films, how wrong can you get.

Robocop, for his third outing, has been transformed into absolutely gorgeous dimensionality of the three variety by the programming team Digital Image Design, and reet smart he's looking,

too. Yon game comes in two varieties – the Arcade version and the Movie Adventure version. Both versions feature the same sub-game sections, though they hinge together in different ways. Played properly, the Arcade section can be used as a practice for the Movie Adventure.

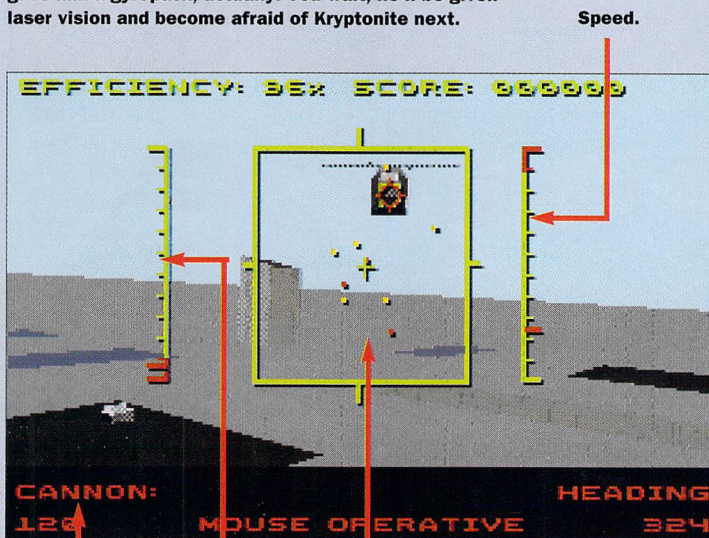
For once, the plot of the Movie Adventure is relevant to the gameplay. It's like this. OCP (aka Omni Consumer Products, *Robocop's* creators) own Detroit, but want to get rid of it in order to build a new conurbation, Deltacity. Strangely, the inhabitants of old Detroit aren't too excited by this idea, so they aren't exactly flooding in droves (to mix a metaphor) out of their homes. OCP, big hearts that they are, recruit a team of nasties called The Rehabs whose job it is to – er, convince the folks that moving is a good idea. Thing is – and here's the crux – they've also roped in Robocop to move the people along, which causes not inconsiderable confusion in the old silicon brain as to whether he should obey his creators or serve the public.

Five different sub-games can be accessed from the Arcade game, each of which gives Robocop a specific task to carry out. These sub-games also make up the Movie section. The first is a car chase set on the roads of Detroit. Sat in your standard issue police cruiser, you're continually informed of car crimes taking place around the city. Using the map, you need to locate the scumballs' positions, intercept them and ram the baskets off the road – this is accompanied by a huge crunching sound of crashing metal and breaking

FLIGHT OF THE DRAFT EXCLUDER

The gyropack section is possibly the hardest part of the game. Not only do you need to watch out for attackers on all sides (tanks and ED-209s on the ground, helicopters in the air), the other three eyes need to be on your altitude. Or you go screaming into the ground in a spectacular – but depressing – pyrotechnical display.

● Since when can Robocop fly, anyway? Since they gave him a gyropack, actually. You wait, he'll be given laser vision and become afraid of Kryptonite next.



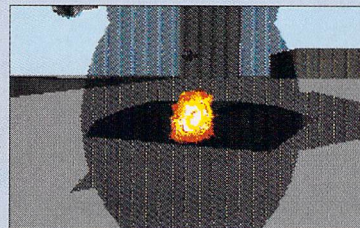
Currently-selected weapon and rounds remaining.

Altitude.

Red dots are aerial threats, yellow dots are ground threats, black dots are important buildings and green smudges are where you sneezed earlier.



● It's best to keep the cannons permanently selected. It's slower and you have less rounds, but once you get a target lined up, you just can't miss. You do have to get incredibly close to the ground to get in range, though.



● Oh, bloody hell! Who put that whacking great building there? Where are the warning signs, anyway – something like "Warning: Dirty Great Building Ahead – Change Gear"? How's a Robocop meant to know he's about to trash himself?

glass. Some of the crims are armed and fire on you as soon as you get near – not good at all. As soon as you see the back doors of the van swing open and the flash of gunfire, back off.

The subsequent two sections involve stalking around the corridors on foot. In the first scenario, terrorists have kidnapped important executives and are holding them at ransom somewhere in the building. Robocop has to explore the building's corridors, shooting punks before they get him and trying not to shoot innocent bystanders (heh). The

Otomo is a kamikaze android ninja. He's lithe, nimble, and he leaps like an extremely disturbed John Cleese imitator



● Most sections have two or three extra external views available, which, although looking great, aren't much help when you're seriously trying to play the game. Seeing Robo stomp about the corridor sections might look impressive, but you just can't see where the hell you're firing.

second scenario is similar, but set in the streets, and Robo has to wipe out the Splatterpunks that are terrorising the neighbourhood. Section four sees Robocop trying out OCP's new design, a rocketpack. Yes, indeed, this is your chance to see that a Robocop can fly. Cue lots of tricky aerial building-dodging, ground strafing (ED-209s and tanks are your ground targets)

and helicopter avoidance/destruction. The things Robo does to test a new product.

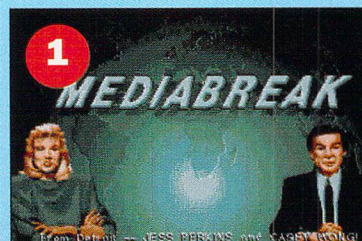
Finally, Robocop comes up against something of a rival in the form of Otomo. OCP's Japanese equivalent, Kanemetsu, have developed – wait for it – a kamikaze android ninja. He's lithe, he's nimble, and he leaps around the place like an extremely disturbed John Cleese imitator. Naturally, Robocop is challenged to a duel in an abandoned warehouse, using only his fists (and – er, a machine gun, but we won't mention that).

Robo starts each section with 99% efficiency, or in English, 99% energy. As he's hit by bullets, cars and so on, the energy obviously decreases until it's spare part time.

Each sub-game uses solid 3D graphics complete with shading and

I'M SORRY, LUVVIES, I JUST CANNOT WORK WITH A MAN WHO WALKS LIKE THAT

Embark on the Movie Adventure option and you'd better be prepared to put in a lot of time and effort – you can't save halfway through and come back later. The story twists and turns like hell, ensuring you get the chance to play every section at least twice. It also changes depending on your actions in each section.



● It all begins with Perkins and Wong presenting *Mediabreak*. They tell of an ED-209 that's gone berserk and helped some crims steal a police van.



● Film at 11: the ED-209 itself, being most unpleasant and generally unpolice-droid-like.

detail that move at approximately twice the speed of sound, or so it seems. The graphics are at their best in the driving and corridor sections, and, particularly in the latter, the shadowy corners and tense atmosphere may remind you not a little of that scene in *Alien*. All

sections have several external view options, so you can show off to friends just how spatially aware you are. Samples are liberally scattered around, too. They're taken from the films and, as such, couldn't be more authentic. As if all that weren't enough, there are sump-

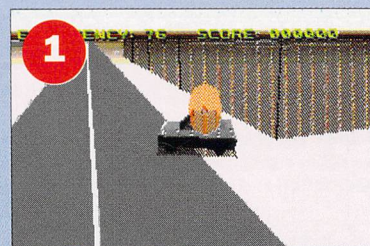
SORRY, WAS THAT YOUR BUMPER?

They take road traffic offences seriously in Detroit. Anyone stealing a vehicle can expect a "ram first, ask questions (possibly, if you're really lucky) later" sort of approach.

● Your police cruiser is fast and manoeuvrable, but unfortunately doesn't come with built-in avoidance systems. It's a real bitch to crash into an innocent car just as you're about to nail the perps who really matter.

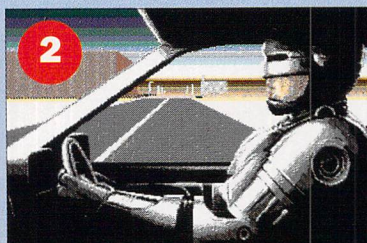
Vital messages appear here, giving the location of criminals, and they're all too easy to miss.

● A quick flick around the external views...

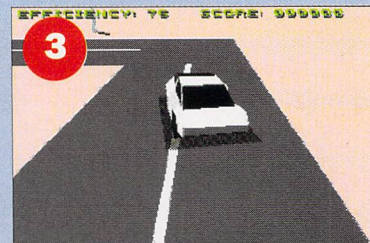


The map shows the location of your cruiser and any other important vehicles. It's split into four quadrants (NW, NE, SE, SW) which appear automatically as you leave the current area.

The speedo – not numbered, but then who needs to know just how fast you're going?



● ...to make sure that everything's hunky-dory (note the flashing lights)...



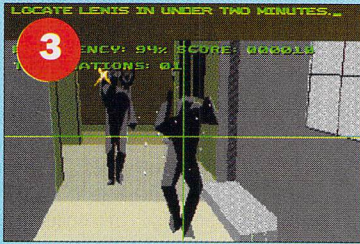
● ...a quick check on the suspects themselves...



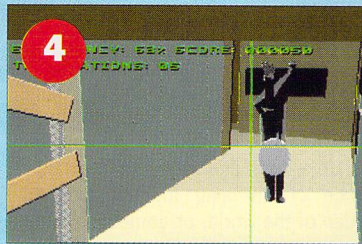
● ...and you're about ready to...



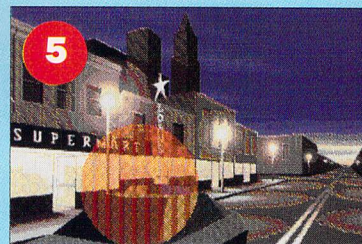
● ...violently ram them off the road believing you're just doing your job.



● Inside, you've got two minutes to find Lewis. Stalking around the corridors is eerie – crims lurk around every corner and fire at you on sight.



● Some even lob grenades at you. Shoot these first! Then pepper 'em with bullets but don't shoot any hostages – it takes chunks off your efficiency.



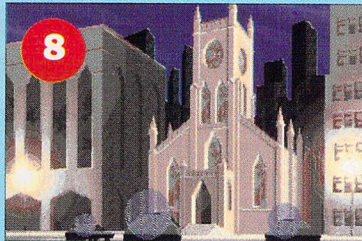
● Officer Lewis (Nancy Allen in the films) and RoboCop are dispatched to chase the crims and apprehend them (by ramming the van off the road).



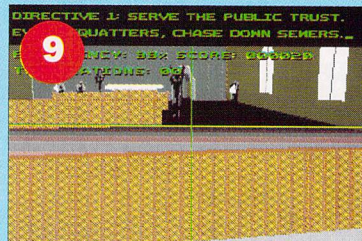
● Either go after the van or follow up the message you get to help Lewis at another destination. Sure enough, there's his car smoking outside.



● The head of OCP informs you that clearing the downtown blocks to make way for the new city isn't going well, and assigns you to clear the squatters.



● So, off you go again with some police buddies and arrive in graphical splendour at the church, lights flashing and guns just itching to blaze.



● Inside, either follow orders and go down the sewers to shoot all the squatters – if you succeed, the game ends – or turn around and leave the church.



● This does not please your superiors, who fire at you. Here, shoot the police before they wear down your efficiency to under 50%. There's lots to do.

tuously-drawn intermediate animations linking the sections in the Movie game.

VERDICT: Blimey. We have a bit of a scorcher on our hands here. RoboCop 3 is perhaps the first example of what can really be done with a licence with some thought, time and programming excellence.

Instead of the film licence simply being a pull for some flimsy platform exercise, the whole game is designed around the whole RoboCop concept,

The gunshots, the car crash sample and the death cries are raw and crunching

and, as a result, it almost drips atmosphere.

How many times have you seen a film (like *Terminator 2*, for instance), thought "Now that would make a really great game," and then been enormously disappointed when the game actually appears? There's no fear of that

here. Digital Image Design are obviously wildly enthusiastic about their subject – even though they could only work from the script during game develop-

ment – and infused the game with that excitement.

Special mention should be made of the sound effects. All too often, programmers seem to assume the ST can't handle complicated samples during gameplay and, as a result, stick in some feeble chip effects.

RoboCop 3 effectively sticks up two fingers at the doubters and shows that ST games can be as loud and atmospheric as any other format. The gunshots, the car-crash sample and the death-cries are raw and crunching, providing the perfect accompaniment to the on-screen mayhem. The idea of having separate sections works well, and

the way you can practise each (the Arcade option) before tackling the big, serious challenge (the Movie option) means you're not stuck with a white elephant – a game two-thirds wasted because you can't, whatever you do, however hard you try, get past the second section.

We're not talking about a perfect game, though. The Otomo section is very simplistic and doesn't offer a great deal of control over the outcome because of its practically non-existent controls. Disk swapping is fairly frequent, especially with a single disk drive, and you need to reload to be able to switch between playing the Arcade and Movie games.

If the film's anything like the game RoboCop 3 will wipe the floor with *Terminator 2*. Even if it's not, you can always come back to one of the best, most violent, eye-searing, ear-bashing games that's been released for a long while. There's only one (completely predictable) thing left to say: I'd buy that for a dollar.

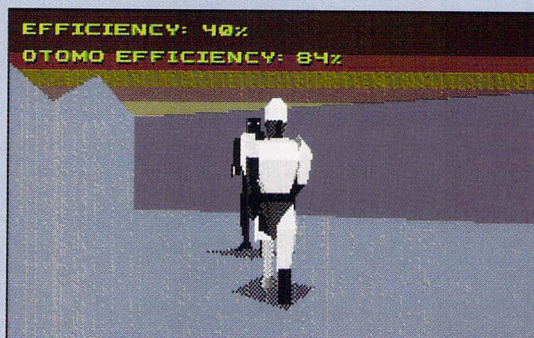
ED RICKETTS

ADOLESCENT ROBOTOID NINJA KAMIKAZES

Even in the future the Japanese are coming up with some marvellous little inventions. Take the new RoboCop-beater: Otomo, the ninja kamikaze android. Ingenious, eh? If he's about to be beaten he simply self-destructs and takes everything with him.



● There are several ways to view the combatants in the fighting section. The most attractive is this one, with a bitmapped background, but the view doesn't change and it's hard to keep track of everything. Here, Otomo tries jumping up and down on Robo's head, an old samurai trick.



● Otomo's a slippery beggar – he doesn't keep still for a second. Since Robo's a dead weight, it's very hard to keep up with the Nipponese nasty, and Robo can only punch Otomo when he's right next to him. You can use a gun, but Otomo usually knocks it out of your hand straight away.

ROBOCOP 3

OCEAN – £25.99

● Hooray! A game with decent samples! Only Llamatron comes close to the way RoboCop 3 uses samples to enhance the gameplay.

● Plenty of variety and the chance to play any section you like means you're not going to get bored or frustrated with an impossible section.

● 3D graphics are superlative, comparable to *Thunderhawk* in their speed, detail and wonderfulness.

STF RATING 94 %

ELVIRA – THE ARCADE GAME



● Ignore the gags about "Elvira's assets," jump in and put the gal through her paces. Probably a good idea to collect that magical ice cream cone first, though.

Strange coincidences of our time: Gremlin are about to produce the game of *Plan Nine from Outer Space*. In the original film there's a woman called Vampira who wanders around dressed in black and being horrible – but not saying anything. Here's the strange thing: *Elvira* looks exactly the same as Vampira. Uncanny coincidence, that.

Not that it matters to the game much. From its subtitle, you may guess that this is far removed from last year's adventure foray with the same Elvira character. We're talking scrolly platform stuff here – much jumping, many enemies, treasure-rooms-full of things to find and plenty of parallax.

For reasons best left undiscussed, Elvira has to work her way through two

worlds – Fire and Ice – to reach the castle of the king to, um, become queen of the world, or something. Each world is a huge collection of dodgy platforms arranged in the usual devious patterns and peopled by appropriately nasty denizens – you've got your monks, your bees, your dragons, your big *Blood Money* style monsters, and, of course, your podgy little pods that block entrances.

Here and there, but mostly there, you can find those rolled-up parchments which always represent spells – these are jolly useful to have around in a fight. A quick scan of the parchment and you're skilled in walking on fire, producing icy blasts, producing – er, fiery blasts, and all manner of stuff to help you out. Spells only last a while though, so tarry ye not when the spell is hot (as Ogden Nash was wont to say).

If you meet the Trader – an old geezer who seems to have taken up permanent residence on one of the platforms – you have the opportunity of swapping some of your spells for other

(but not necessarily more useful) ones. You can also buy information using runes, which can also be collected around the levels.

Elvira's a great little mover, but she isn't exactly speedy. There are occasions, as her expertly-crafted sprite slinks by, when you wish she would just stop

being so laid back and get on with it. Still, if you were wearing her get-up you probably wouldn't be too nippy, either. This woman is seriously skilled in high-

There are occasions when you wish she would stop being so laid back and get on with it



● It's amazing where a girl finds room to carry these dirty great runes around. Collect enough and you can visit the Trader. Ten runes get you a tea set, but you need 695 for the portable TV.

BRIDES OF DRACULA

Aren't those '60s horror films great? The hero enters a remote village tavern to find a group of character actors with silly accents. Everything goes well until he mentions the castle. There's a sudden hush and someone

drops a tankard or two. Everyone glares at him because several local girls in tight bodices have mysteriously disappeared. And so it goes on, until the final scene where the monster gets it, the castle burns down and the hero runs off with the innkeepers daughter.

Well, *Brides of Dracula* is even sillier. The plot is some wibble about the vampire superstar Count Dracula who wants to get married to 13 vampire women. He's discovered that the local village of Bistritz is home to 13 particularly appealing girls, but they

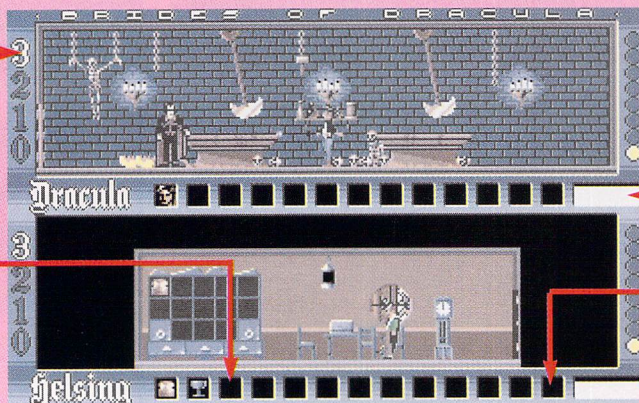


HORROR, TERROR AND COMEDY WALKS

The split-screen display is a blessing and a curse. The graphics are small, but you get to see what the other characters are up to as you plod around the surreal world avoiding giant chainsaws and acid-dripping trees.

Lives left for our two protagonists.

Each of these boxes represents an object collected for Van Helsing or a bride for Dracula. Each is grey until they are returned to home base.



Energy bar – full of currants, crispy bits and lashings of real milk chocolate. There are characters who'd like a piece of this – including the mad axe-man in the woods, he wants a large piece, please.

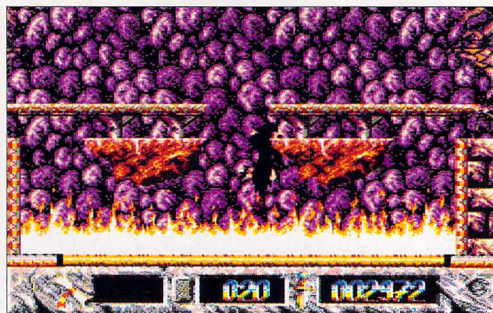
Money collected. These coins are used to buy trips on the teleport, which makes travelling between the village and the castle a damn sight quicker and safer.

need converting to undead vampires before they're suitable marriage material. This involves the Count overpowering his victim and biting her neck – her hair then turns black and spikey, her dress black and skimpy and her thoughts solely to Drac. She follows him back to his castle – so foolishly obsessed is she – and spends the rest of her time waiting for him in a coffin.

Vampire hunter Van Helsing, on the other hand, doesn't want the marriages to go ahead – whether this is because he wants the women for himself, because he just wants to spite the Count or because he sincerely believes that women have more of a role in life than merely serving their master is unclear. Anyway, whatever his motivation, he runs around trying to find the 13 ingredients – like a crucifix and a wooden mallet – to put into his vampire destruction kit to destroy the Count before the nuptials can take place. Both



● It's a shock when you've collected a key and find yourself falling through these trapdoors in the floors. Contrary to its appearance, the glowing cross is good to you – it replaces lost energy (a bit like Lucozade).



● Hmm. A long precarious walkway stretched across a particularly fiery fire. And wouldn't you just know it, halfway across, the bridge crumbles, giving Elvira a somewhat unwelcome thigh-toasting experience. Ow.



● Didn't I know you from *The Hobbit*? "Yeah, but I was all text then. Look at the graphics on me now." "Er, can I throw some weapons at you so you explode and I can get the spell behind you?" "Okey-doke."

heeled jumping techniques. The scrolling is excellent – true parallax, with the backgrounds moving completely independently of the foreground. It's an effect you don't often see done properly in ST games, but it gives the game a marvellous arcadey look. The

sprites and backgrounds look vaguely similar to those in *The First Samurai*, but *Elvira*'s are much nicer (yes, snigger snigger), being more colourful, better animated and distinctly good.

Of course you can't expect excellent graphics and excellent sound, oh

dear me, no. Samples would have been nice, but instead we get the usual white noise ssshes and whooshes.

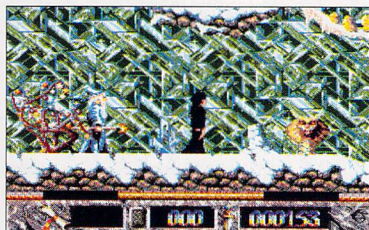
VERDICT: *Elvira* has almost everything going for it except its concept and sound. The levels are huge and packed with gameplay, but the lack of any restart points or passwords in each world may put you off. You do get plenty of lives and the chance to renew your energy regularly, but completing the game is still a marathon task.

Psygnosis are supposedly famed for producing this sort of game, but rarely pull it off. If you want to see what a platform game should look like in the '90s, why not make an appointment with *Elvira*? It's tacky, it's a tired format, but hey! – this game can kick ass.

ED RICKETTS



● Elvira demonstrates the Walking on Fire spell, otherwise known as asbestos leggings. Up in the top right is a countdown of how long the spell has left. Kids! Why not try this at home?



● The Ice World is like the Fire World, only without the fire. It always snows, so Elvira has to keep stopping to rearrange her mussed hair. (Just thought I'd slip that in to offend all the feminists.)

ELVIRA – THE ARCADE GAME

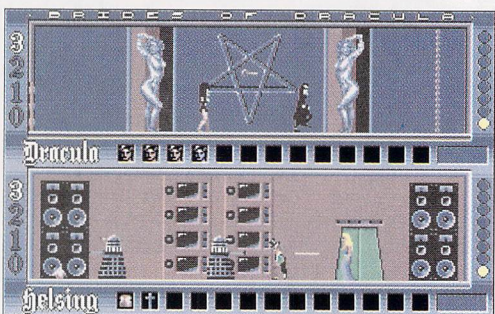
FLAIR SOFTWARE – £25.99

● Definitely a *First Samurai* look to the graphics, with some *Gods* elements creeping in here and there. You can expect clearer, bolder and better graphics from *Elvira*, though.

● Sound is disappointing. With some samples and bit more pazz in this department this could have been a really stonking game instead of just a fairly stonking one.

● Concept as original as a *Status Quo* single, but it's the style of the game that counts.

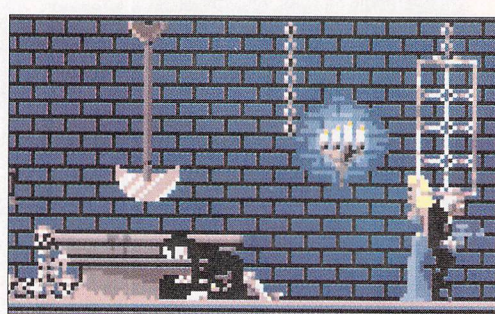
STF RATING 79 %



● The village of Bistritz holds a few surprises – Van Helsing comes across some strangely familiar characters, while the Count gives another stunned victim a guided tour of his ancestral home.



● Whether you play the Count or Van Helsing is irrelevant – they're identical collecting-missions really. The only difference is that Dracula has to knock his to the ground and suck on them, as it were.



● Dracula converts one of the girls into another Elvira clone. And she used to be such a nice girl too, wandering around aimlessly in a nightie. Check out Van Helsing's walk – what is he on?

Dracula and Van Helsing wander round picking up these objects and taking them back to the starting point. First one to finish collecting all 13 items wins, unless you run out of lives first. You choose which character you want

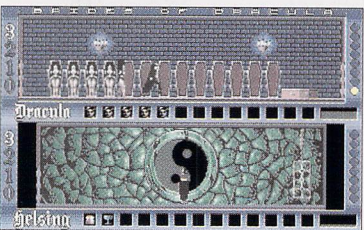
to play and a friend, or your ST, plays the other. It's a split screen display even in one player mode. Control is the standard joystick job and involves a lot of jumping over people or hitting them. The objects of your quest are always in the same areas, so, after a few games, you get to know the lie of the land. Control is, at times, hideously frustrating, especially when trying to use the stairs for the tenth time. The graphics have a decidedly individual style – there are some pretty backgrounds and the game uses more than 16 colours on-screen in some scenes. This, along with parallax scrolling, means it looks attractive enough, but it all moves too slowly. The main sprites move jerkily and plod around in a rather unhurried way, giving

the game a pedestrian pace. The sound is unmentionable, so we won't.

VERDICT: *Brides of Dracula* definitely has potential. If the graphics were speeded up, some good sound effects added and the gameplay changed, it'd make a brilliant game. As it stands, it's not much fun – even if it's raining outside and the little hand's gone past the vertical. After a couple of games, it turns into a plodding jaunt round the landscape visiting the same areas and doing the same things. Once you've completed the mission once, it would have to be raining very hard indeed before you'd be tempted to go near it again. There are some good touches and characters, but they don't drag the

game above the level of pretty dull. Two players don't add much, either. At this price, you and your ST deserve better.

CHRIS LLOYD



● The Count adds another woman to the collection, while Van Helsing ponders the nature of dualism, morality and tries to figure out the teleport.

BRIDES OF DRACULA

GONZO GAMES – £24.99

● Not many two-player split screen collect-'em-ups around like this – phew!

● Unique style of graphics, some humorous touches – but all too jerky.

● *Horror Zombies from the Crypt* has a similar theme, but has more to do and is prettier.

STF RATING 49 %

ALCATRAZ

The island of Alcatraz stands empty and discarded - a relic of the past. But, as night settles, the ruins of the old prison comes to life. In an ironic twist of fate, Alcatraz is now the hide out of an evil drugs cartel, led by Miguel Tardiez, its cruel and callous chief. As a crack commando you are about to undertake the most perilous and daring mission ever. Your task - penetrate the island of Alcatraz and capture Tardiez. If you fail the State Department will simply deny any knowledge of your existence. There's no such thing as a dead hero.

**NOW
AVAILABLE**



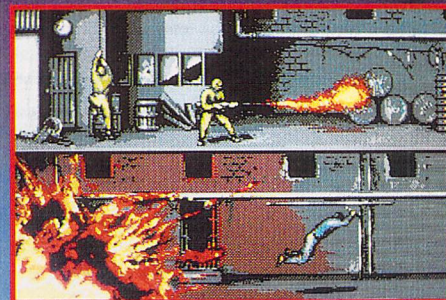
It's the final countdown, as HQ gives the last briefing.



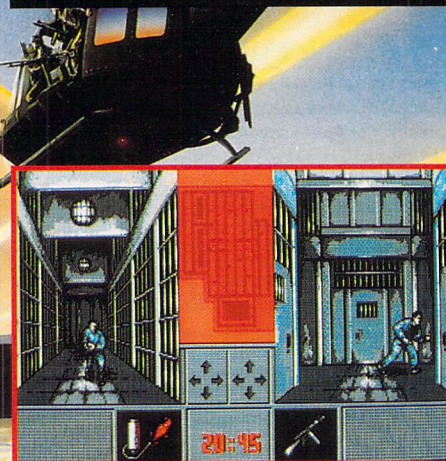
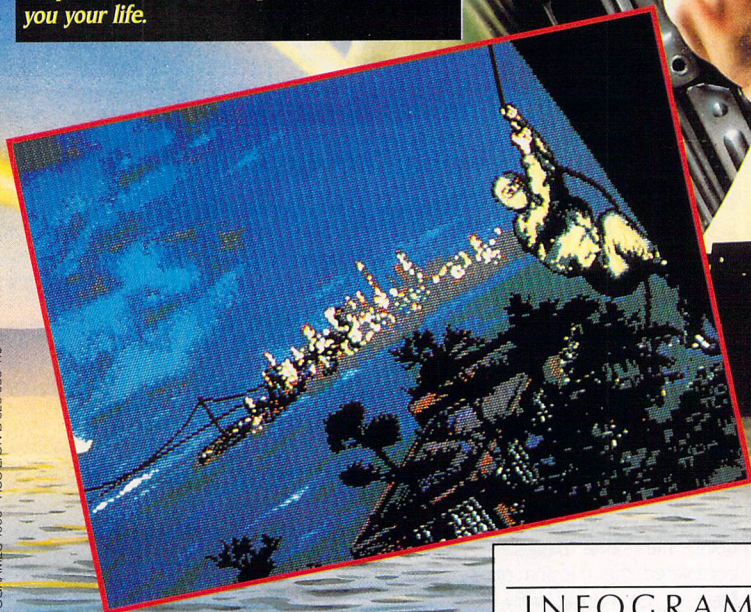
Prepare with care, a simple mistake will cost you your life.



Track down Tardiez's men, as you move ever closer to the very centre of corruption.



One false move and your cover is blown.



Tardiez's men lurk on every corner.

INFOGRAVES



FOR:
ATARI ST/STE - AMIGA - PC & COMPATIBLES

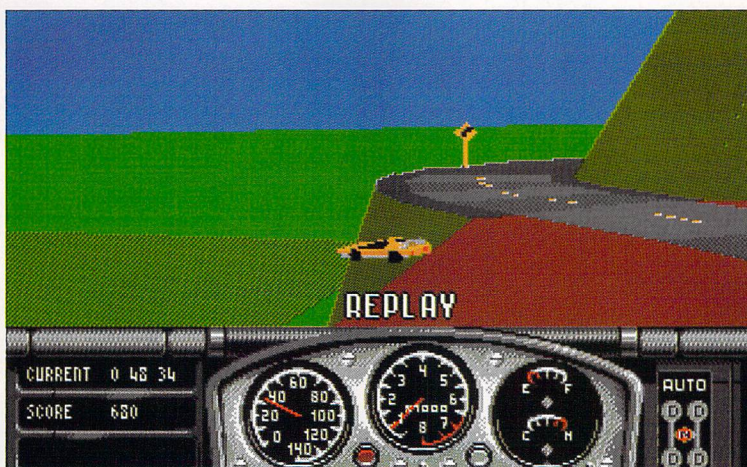
RACE DRIVIN'

Quite a while ago Domark brought out a game known as *Hard Drivin'*. It featured a few nifty 3D graphics but was marred by being too difficult and having too slow a display. After that there came *Hard Drivin' 2*. This was basically the first game with some extra tracks and a course editor. Now the next in the long line of *Hard Drivin'* clones has appeared.

Let's be honest right up front. *Race Drivin'* is just *Hard Drivin'* with three extra cars and two additional tracks. Along with the original Stunt and Speed tracks, you're now fortunate enough to get an Autocross and a Super Stunt track as well.

The concept behind the Autocross track is simply speed. You race against either another player (with or without a serial link option, which enables you to connect two STs together to race simultaneously) or against yourself. When doing the latter, a "ghost" car appears on the track which represents the best lap time you've done, so the aim is to beat that.

The Super Stunt is a souped-up version of the Stunt track. It includes some very treacherous mountain hairpin curves, a huge roller-coaster style ramp



● **Falling off a mountain is practically as easy as falling off a log in *Race Drivin'*. Perhaps that could be something to do with the incredibly awkward controls. Even with the sensitivity cranked right up as far as it goes, you need to throw the mouse halfway across the desk if you stand any chance of getting the car to move.**

and plenty of loops. It really isn't for the faint-hearted.

The graphics and sound haven't improved from the other games. There are still annoying glitches in the 3D routines which means cars appear through hills, and, particularly in the replay, the perspective becomes very confused. Sound still consists of some tatty old chip tunes and effects.

VERDICT: The handling of the cars is supposed to have been improved, but

it's very difficult to see how. If anything, they're more difficult to control than in the other games. It takes many hours of practising and crashing before you can confidently tackle any of the tracks. Mouse control is still preferable to joystick, but even that advantage doesn't help much.

It's another disappointment, unfortunately. Instead of revamping the entire 3D system, making some brand new tracks and giving the whole game a facelift, the programmers have opted



● **The ramp looms ominously, as ramps tend to do when you're about to jump over them at something over 60 mph. About the only thing that's different to *Hard Drivin'* is the impressive but entirely useless mountain, also looming ominously in the background.**

to simply change a few elements and hope no-one realises. Frankly, it won't wash. Two *Hard Drivin'*s were more than enough.

ED RICKETTS

RACE DRIVIN'

DOMARK - £25.99

- Don't even consider getting *Race Drivin'* if you've got either of the *Hard Drivin'* games. They're just too similar.
- Stupid display glitches and almost uncontrollable cars still ruin what could be a very good idea.

STF RATING 63 %

UNREAL

No it's not, it's all very believable – a simple tale of one man and his dragon – as well as his beloved who's been nicked by someone else, prompting said man to jump on said dragon and attempt to get said beloved back. Hey! It happens all the time.

The game's split into eight sections, alternating between two completely different game styles. The first stage has you sat astride your dragon whizzing through the air, avoiding trees, dinosaurs, bridges, trees, rocks, and more trees. Luckily you can fire at everything and anything. It's lucky because this section goes so fast you don't get a chance to avoid anything – just plough a path straight through it all.

Once this tedious and pointless section is over, you're moved into a horizontally-scrolling beat-'em-up. Actually, it doesn't scroll but shifts screen by screen. This means you get loads of



● **The structure of metals has obviously changed quite significantly since the days of *Unreal*. All our hero has to do is thrust his sword into the flaming pot and it immediately bursts into flame. Absolutely remarkable.**

chances to fall off the edge of the ledges artfully placed just off-screen. There are an awful lot of snowballs rolling about which need to be jumped over, as well as scaly prehistoric things which

constantly attack you – as if the magicians bungling spells at you weren't bad enough. It's all very distressing, but nothing you can't handle with your sword. Then it's back to the 3D flying section with the awful graphics and the hopeless gameplay.

● **Left! Left! Avoid that rock! Mind those trees! Duck! Swerve – oh, sod it. Why not just go in a straight line and blast everything that comes your way into seven shades of source code? Works for me.**



● **"Eat and digest this flaming sword, you green-swathed son of a thousand hideous monstrosities spawned from the very deepest depths of your father's diseased imaginings. And – er, is there a toilet around here by any chance?"**

way you don't particularly want to – the chances are you'll have seen it, done it and don't want to talk about it.

Unreal's a bit of mish-mash with no real redeeming features to speak of. Appealing title, though it's a pity the game turns out to be all too real and all too familiar.

ED RICKETTS



UNREAL

UBI SOFT - £25.99

- Beat-'em-up scenes might remind you a teensy-weensy bit of *Deathbringer*, but even that disappointment had more flair than this.
- Game styles just don't mix very well. It might have been better if either of them had a hint of originality.

STF RATING 59 %

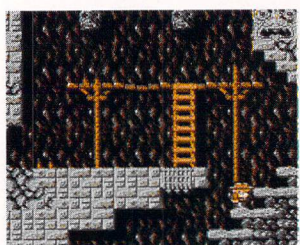
CHEAP AND EVEN CHEERFUL

RICK DANGEROUS

Kixx – £7.99



● Incredibly dangerous, I trust you agree. Rick gets out his whip, decides he doesn't like it, swaps it for a gun and a stack of dynamite, and sets off in search of the Lost Chord, or something like that.



● Look, just because I'm shouting doesn't mean I'm getting frustrated with Rick flippin' Dangerous! This bit's actually very easy once you've done it, say, 60 or 70 times.

Ah, *Rick Dangerous*. A classic game among classic games, and a bleedin' hard one to boot. Rick Dick is a derring-do explorer à la Indy – all right, he's actually a complete clone of Indy, and bounds about doing heroic things, like being killed.

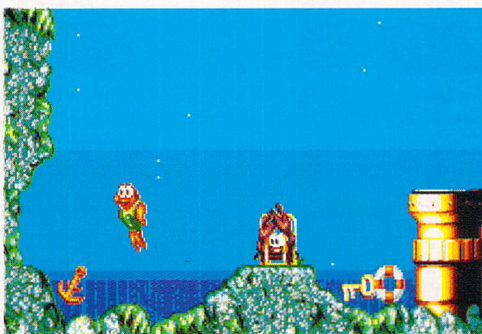
Rick Dangerous is a platform game set over four largish levels made up of flick screens. Each level has a theme – Level Two's Egyptian, Level Four's set in an arms lab of the dastardly nasty who you're out to destroy. You're armed with a gun and dynamite, the former for killing everything and anything that gets in your way – Indians, Egyptians, Germans, xenophobes and so on – and the latter for blasting sections of rock that make your progress otherwise impossible. Both forms of armament are finite and have to be topped up by collecting caches of them en route.

This is the easier re-released version of the game in which you can access each of the four levels via a menu at the start – but you can't complete the game this way. This is fortunate, because without it you'd never get to see the later levels. The game's tough – very, very tough, but immensely enjoyable, with cutesy cartoon graphics, spot-on samples and all the gameplay you can eat. Superb stuff.

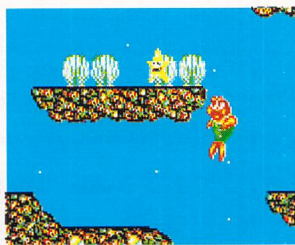
STF Rating – 90%

JAMES POND

GBH – £7.99



● James Pond: deadlier than a rabid radish, faster than a well-hurled orange, wittier than a drunken elderberry – he's all Gadus and proud of it.



● Pond's deadly enemy, Mack the Starfish, searches in vain among the bonus objects as Pond prepares his... no, sorry, it's all just too silly.

JP, the cod with an attitude, the non-floundering fish, the piscine with pzazz, has recently resurfaced in his sequel *Robocod*. But this was his début, a game of lobster-rescuing, crab-avoiding (ahem) and lots of hidden extras.

Pondy has to embark on 12 missions with wonderfully daft titles like "Licence to Bubble" and "Leak and Let Die," each with a different aim: blowing up oil rigs, rescuing seals, recovering gold bars. They're all set underwater (natch) and each has the common thread of being infested by pesky crustaceans, molluscs and bivalves that get in James' way and make his job all the harder.

JP doesn't pretend to be more than a fun arcade platformy affair and it's great if you treat it as such. There are loads of bonuses and lives to be picked up, sub-games (if you can find them) and mucho silliness. Thank cod for *James Pond*.

STF Rating – 82%

SIR FRED

Action Sixteen – £9.99



● *Sir Fred* is one of those titles which make you think there's some obscure pun behind it which you've missed completely. Nope, even if you say it fast it doesn't mean anything: *Sirfred*. *SirFRED*? It must mean something.



● ...stir fried? Surfed? Surfeited? Anyway, those little Irish goblins with the big spears are real pains, because they lob them at you and run away. You can parry them though.

Fred's a real dude – or at least he was. Having been turned into a dwarf by another irate dwarf, he's being laughed at by all his bigger knight mates and so desires revenge on the little(r) people.

So, back in the real world, you have to control Fred on his trek through the woods and cemetery to find the dwarfs' grotto, then duff them up good and proper. You view the game side-on and, as Fred yomps his way through the scenery, he's continually attacked by the petite peeps and their friends. Luckily, he's got a big sword and lots of littler swords to bung at them, which seem to make them explode with a small (naturally) puff.

There are three on-screen "levels" Fred can be standing in: fore-, mid- and background – only enemies on that particular level can hurt him, and vice versa. On the way you can collect potions to beef up your energy or make you invincible, extra weapons, and a key which enables you to go through to the next part of the level.

Sir Fred is French in origin and it shows. The sound effects are excellent – lots of comical sampled "ows" and "yeouchs." The graphics are quite nifty, too, with colourful backgrounds and good animation that bring every character to life.

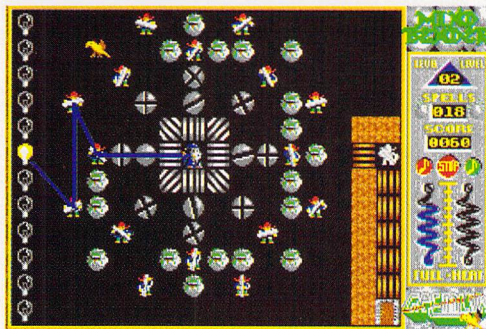
Sir Fred's a good bet for a tanner, although you might find the gameplay begins to pall after a bit. A pleasant surprise.

STF Rating – 79%

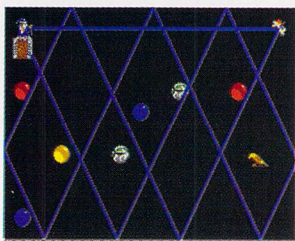
Budget games, eh? You can't live with them and you can't live without them. The little blighters are popping up like wildfire (to coin a phrase) on the ST at the moment. This lot were in danger of breeding, so we thought we'd better get round to reviewing them pronto before they encouraged others. Our games supremo, Ed Ricketts gets short and sharp

MIND BENDER

GBH - £7.99



● Sub-game One: try to get the energy beam to spell out a rude word. Hours of fun gnome-rotating in the entertaining, if not exactly original, *Mindbender*.



● Sub-game Two: see how many self-repeating patterns you can make up that consist solely of parallelograms. (You get real value for money from *Mindbender*, don't you?)

Years ago on the Spectrum there was a game called, rather imaginatively, *Deflector*. The aim of this game was to channel a beam of energy around the screen using a series of mirrors in order to reach a specific point. In the way there were various obstacles like polarisers, blocks of wood, beam splitters and so on, which made life hell for the poor old beam of energy.

Strangely enough, this could almost be a description of *Mindbender*, only this time there's a plot involving gnomes, magic spells and all that sort of malarky. It's the same game, though. From your magician – who's strategically placed somewhere on-screen – emanates a magic beam in a straight line. When it hits a gnome – yes, a gnome, what's wrong with that? – holding a mirror (fixed or movable by you), it's deflected at an angle and whizzes off elsewhere. What you have to do on each level is to deflect the beam so that it hits every one of the – er, spell cauldrons on-screen, satisfy any other conditions that have to be met (for instance, on some levels there are lightbulbs that have to be lit up by deflecting the beam onto them before you can exit) and then channel the beam into the exit door. Of course, there are the other bits which get in the way to be circumvented, destroyed or both.

They weren't joking when they called it *Mindbender*. It's not easy, even on the second level, because you've got a time limit constantly nagging away at you. It's a good little game though, with primitive graphics and all rightish sound, and it'll keep you going longer than a Snickers (or a Marathon, if you're a traditionalist).

STF Rating – 72%

VOODOO NIGHTMARE

GBH - £7.99



● Now remember, kids, if you want to practise voodoo at home, don't try it with a doll of anyone you know. Try to get hold of a Jeremy Beadle or a Benny Hill doll – oh, and make sure the pins are sharp. (The libel case comes up next week.)



● What are all those Rolos doing lying about? I thought this was meant to be the Temple of the Spider, not the Temple of Confectionery. It's a big Voodoo Nightmare.

Boots Barker has to be the silliest game character ever created. He's a huge African voodoo mask and a pair of boots – that's all. Bootsy is trekking about the jungle looking for eight voodoo pins to put in his voodoo dolls to kill the voodoo witch doctor and end the curse of the dreaded adjective "voodoo."

The jungle is displayed in a gloriously coloured 3D isometric view, which is a pig because it makes Boots nigh on impossible to control. He can't actually kill any of the creatures which regularly pop up, but he is a dab hand at jumping over them. Most of the action happens inside the five jungle temples where the gems, pins and suchlike that Boots wants are hidden.

There's an awful lot of good old-fashioned searching and puzzling to be done, and, in fact, the game resembles nothing more than a prettyfied version of older ones like *Sabre Wulf*. The graphics are bright and very colourful, the game's fast, the sound's bleu-uchh and there's always the splendidly-titled *Mysterious Part Two* to reach. What more could you want for your eight pound note?

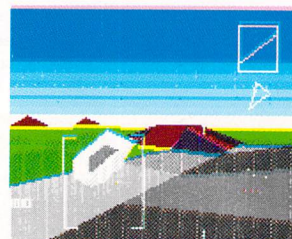
STF Rating – 71%

THUNDER-STRIKE

GBH - £7.99



● Exciting, isn't it? You've just plucked a couple of drones and are about to destroy a generator by flying round it very fast pretending to be utterly and completely confused. You cunning devil.



● Now then, let's see, what should we shoot? Those innocent-looking pod things floating about or the dirty great pulsating red thing on the ground?

If the software houses are to be believed, all we're going to be doing in the future is engaging in violent and complicated cybergames involving planes, robots and money. *Thunderstrike* is yet another futuristic gameshow setup, in which contestants clamber aboard their minimalist collection of dithered polygons – colloquially known as a ship – and attempt to fry each other's bottoms, figuratively speaking. Actually, they attempt to fry the drones generated by the somewhat aptly-titled drone generators scattered around the arena, while simultaneously defending ground installations, attempting to knock out the generators and cooking a boiled egg.

You, of course, play one of these drones. No, sorry, you play the pilot of a ship. There are five craft available, with their own pros and cons (go-faster stripes, spoiler, that sort of thing) and five arenas over 50 rounds. 3D is the order of the day, but it's a little confusing at first because, instead of seeing the view from the cockpit of your craft, you see your craft directly in front of you responding to your movements.

The graphics aren't spectacular, but they zip about quite quickly – enough to get you confused, at least. The sound effects deserve a mention because they're so awful. As the massive power burst that's your shot emerges from your ship, it's accompanied by a ridiculous "plock" sound that curls up and dies as soon as it hits the air. Pah.

Good, solid blasting, but nothing to keep you up nights.

STF Rating – 67%

TOYOTA CELICA GT RALLY

GBH - £7.99



● "Now, Mr Iguty, I'm going to ask you to drive normally down this murky forest road, and when I smash my head on the windscreen like this, I want you to stop and phone for an ambulance. Is that completely clear?"



● This is a rally, right? The car's built to take on almost anything, yeah? So why not take the cross-country route? Who needs roads? Get in there and spot some trees.

Now, rallying, that's a real race for you. None of that pansying around on a clinically-clean circuit – get out there in the woods, the snow, the – er, M1. All this manly-type stuff can be yours in *Toyota Celica GT Rally*.

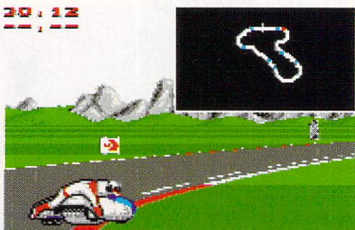
Being in a rally and all, you need to do all that annoying preparation before you can get out and zoom about. You need to train your co-driver (co-driver? He never touches the blummin' wheel) to call out what sort of corners are coming up – "hard left," "easy right," "fairly tricky straightish bit" and so on, using a number of stock phrases. You should study the route map, too. Once you're out, you encounter all the lovely things that make rallying so much fun: rain, snow, 90 degree bends, barns (awful lot of barns around these tracks), trees and so on and on.

There are some good touches, like the need to use your windscreen wipers in snow and rain, and the sampled voice of your co-driver. But on the whole, the driving itself is too awkward and unrealistic to make you want to try very much. The corners all seem to be right angles, and the car control is very iffy. Shame really – but hey! That's life.

STF Rating – 65%

COMBO RACER

GBH - £7.99



● "Will you stop fiddling about back there! I'm trying to win a race here." "Look, this bit comes off if you pull it hard enough. Actually most of these bits are practically falling off. Do we really need two wheels?" High jinks and low humour in *Combo Racer*.



● Our *Combo Racers* have a bit of a sit-down and learn some new words. Today's word is: "paused."

Combo Racer, a bike racing game (yes!) with a difference – the difference being that there's two of you on the bike. Not that it makes the slightest bit of difference when you're playing the game.

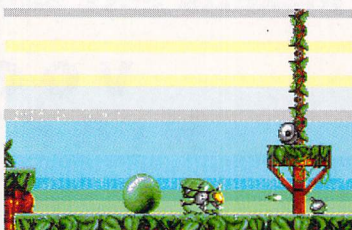
As usual, there are plenty of testing, twisty and even turny tracks for you to bomb about with your pal hanging on for dear life in the sidecar thingy (it must be called something more exciting than "sidecar," surely?). You've got six gears and a maximum speed of 140 mph at your disposal, ensuring you get to see plenty of not-really-so-spectacular crashes. By some remarkable quirk of fate, your engine sustains exactly 3% damage every time you crash, so after – er, well, about 33 crashes you've had it. That's a bit generous, isn't it?

Graphically, the game's got nothing to boast about and, for the brief moment you have the volume up, it sounds something like a Kenwood kitchen blender about to expire. There is a built-in track editor, but this doesn't do much to make the game any more attractive after two or three goes. Passable, but forgettable.

STF Rating – 61%

VENUS THE FLY- TRAP

GBH - £7.99



● You'd need a bloody huge can of *Raid* to dispose of *Venus The Flytrap*. It's all a government plot, y'know; they're breeding giant mechanised broccoli and huge robotic mung beans down at Porton Down. I read it.



● Doesn't that plant thingy on top of the platform look just like Seymour from *The Little Shop of Horrors*? Not nearly such a good singer, though.

Our hero in this opus, *Venus* (who is, we assume, a Flytrap) is a mechanised insect and an inhabitant of the future – that big violent thing just in front of you. *Venus*' only mission in life is to travel through this horizontally scrolling shoot-'em-up and – er, shoot 'em up.

That's about all, really. Sometimes when you kill the other nasties they leave behind pods which can be shot to reveal mushrooms (very useful, actually), extra weapons and other desirables. The backgrounds are colourful, as are the character graphics, but there's not a lot to do aside from the shooting, jumping and avoiding. *Venus* is, unfortunately, yet another of those platform games which can safely be consigned to the "seen it, done it" pile after playing once.

STF Rating – 58%

GHOULS 'N' GHOSTS

Kixx - £7.99



● Personally, I think ghosts have had their day. (This rather feeble, not to say cryptic, joke was the only thing that occurred to me. If you can come up with a better caption, send it to That's Pathetic! Mine's Much Better, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. The winner gets a mint Aero personally signed by the entire *FORMAT* crew, unless we think it's too silly and refuse to cooperate.)



● *Knighty's* been having a few problems recently. Just now he's decided to take off all his clothes and hide behind a pole. Wait until he gets to his paranoid phase – he'll be thinking he's being chased by dead people next.

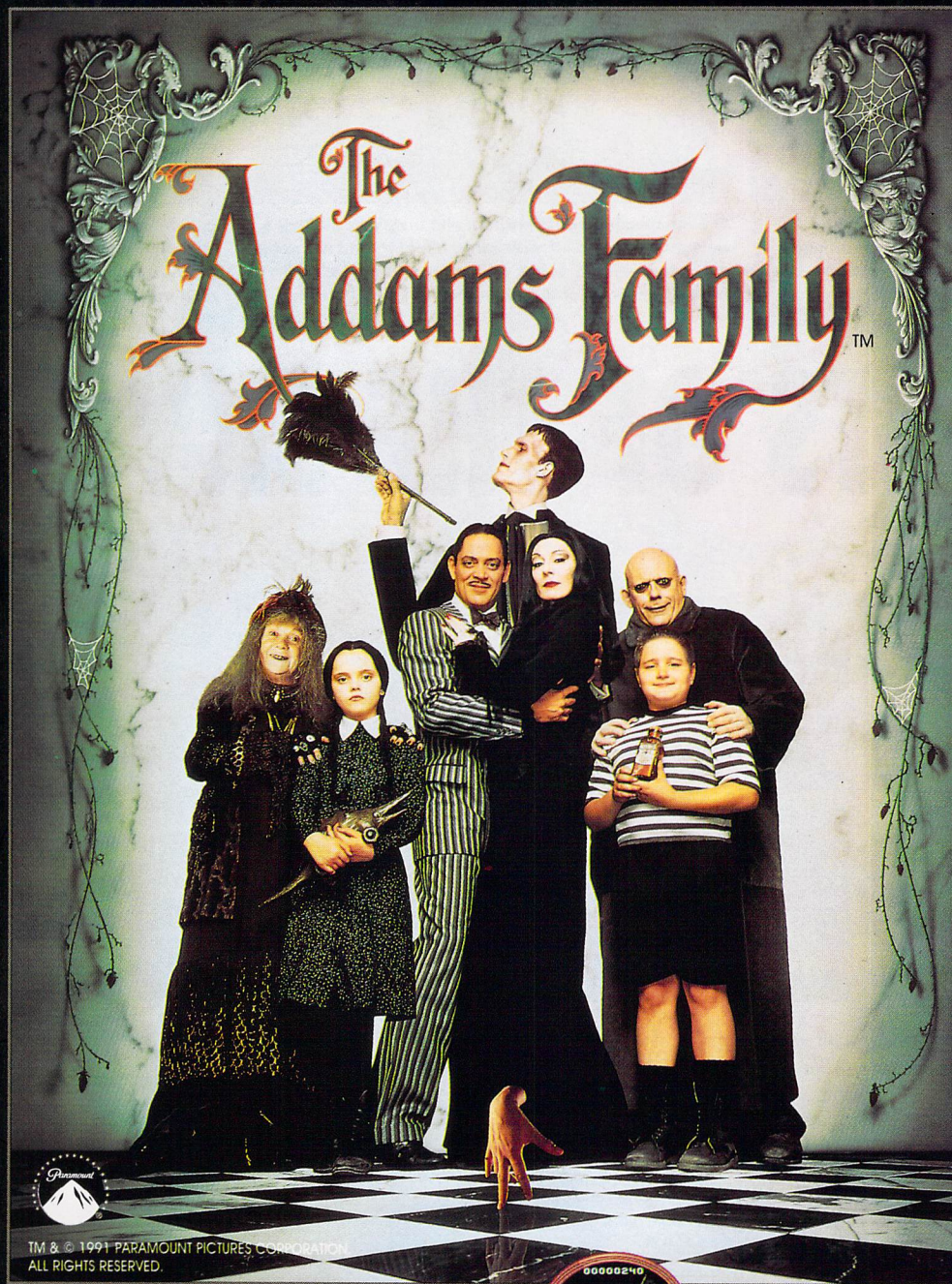
Another short knight in *Ghouls 'n' Ghosts*. This one, as usual, is after his tottie who's been kidnapped – computergameland is certainly a dangerous place to be if you're a girly. Ol' *Knighty* has to traverse a horizontally-scrolling landscape, biffing the ghouls and frightening the ghosts, collecting bonuses and trying not to be killed in a hideous vulture/ghoul/mistimed jump style situation.

There's one problem with all this – it's not very good. Or rather, this conversion of the coin-op isn't very good. The graphics are average, the sound's – well, you can guess, and the gameplay just doesn't flow in the way it should. *Knighty* reacts awkwardly to your commands, meaning you keep getting killed when you know you shouldn't. It's all very depressing and not really worth a first glance, let alone a second one.

STF Rating – 44%



Creepy, Kooky, Ooky, Spooky!

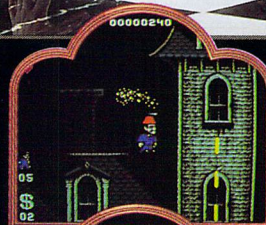


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They do what they wanna do...

But not now that they've been evicted! Morticia, Lurch, Granny, Pugsley and Wednesday have gone back to their creepy abode to regain possession.



play how they wanna play...

But watch out for Tully - he plays mean. Tully is the trecherous lawyer intent on stealing the family fortune and who has many a dirty trick up his sleeve.



say what they wanna say...

But not now that they've disappeared! As Gomez you must find your loopy loved ones in their spooky mansion house.



dance how they wanna dance...

And you'll be shakin', rattlin' and rollin' when the spikes, monsters and ghosts save the last one for you! If you solve the puzzles and follow the clues you might just save the Addams Family so that they can...

live like they wanna live!

ATARI ST . CBM AMIGA
IBM PC & COMPATIBLES
SPECTRUM . AMSTRAD
COMMODORE



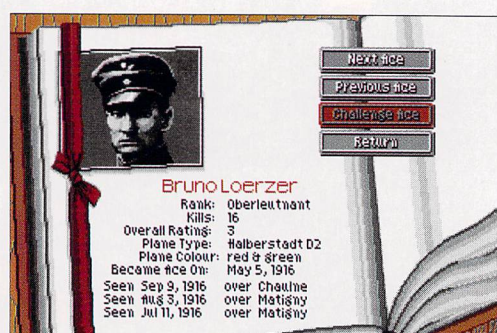
OCEAN SOFTWARE LIMITED . 6 CENTRAL STREET . MANCHESTER . M2 5NS . TEL: 061 832 6633 . FAX: 061 834 0650



● There are 20 crates to take you to the blue in. As the war progresses, performances improve dramatically. So, during your war career always pick the best available – unless you're some kind of nutter.



● Each mission starts with an aim involving making a nuisance of yourself with Jerry. Make it, and it's gong-collecting time. If not, it's time for a ticking off – if you haven't smashed into the ground and died horribly.

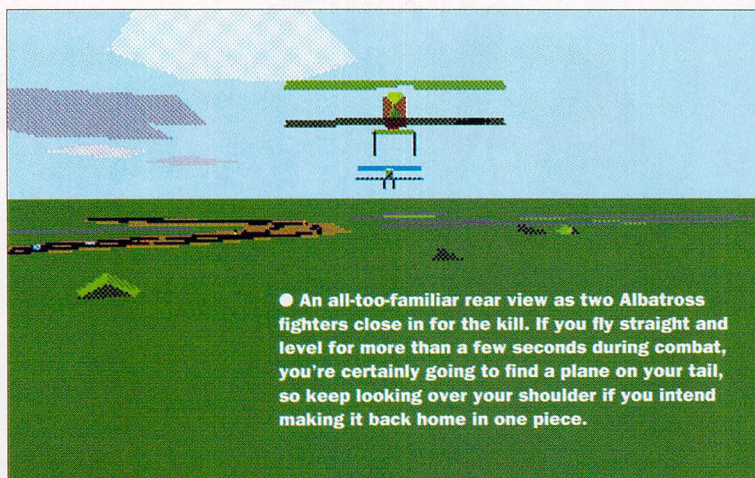


● *Knights of the Sky* includes all the deadliest and most skilful German aces. You are given updates on their exploits and position between missions. If you're really stupid, you can challenge them to combat.

KNIGHTS OF THE SKY



You call that a plane? A brown paper parcel tied up in string, more like! Dashing Chris Lloyd does some daring things at 5,000 feet and makes it back for tea and medals



planes are highly detailed and fair representations of each type. The amount of ground detail is impressive: there are loads of ground buildings and, cutting across Flanders like a huge scar, is the front itself – miles of trenches and

On top of a first rate flight sim, there's the incentive of battling your way through the big one at the controls of a series of fighters

Flying high-tech jets getting a bit too easy? Just lock onto a target and let loose with a missile – it's all too simple when you're packing the latest IT high-tech death-dealing weaponry, isn't it? How about this one, then – no head-up display, no radar, no missiles – not even a parachute. *Knights of the Sky* has you risking your all in a WW1 fighter built largely of small bits of wood.

Give yourself a suitably heroic name, don your sheepskin-lined boots, leather jacket and silly hat and climb aboard the old stringbag

After a charming little animation and a quick copy protection spot-the-squadron insignia test, it's into the affray. From the main menu, you can do a spot of training with no danger of wiping out your favourite pilot. You can enter a dogfight with any of WW1's famous German aces flying your choice of plane from either side. And finally, get into the big one – try and survive WW1 itself. Give yourself a suitably heroic name – Squiffy or something –

don your sheepskin-lined boots, leather jacket and silly hat and climb aboard the old stringbag. You're now ready to commence a victorious career clearing the skies of the Hun, or – as is more likely, getting pounced on by a bunch of

Boche and getting heroically shot to bits. The action starts on 1 May 1916 – the Allies are just recovering from the dreaded Fokker scourge after introducing fighters that actually stood a chance. You are

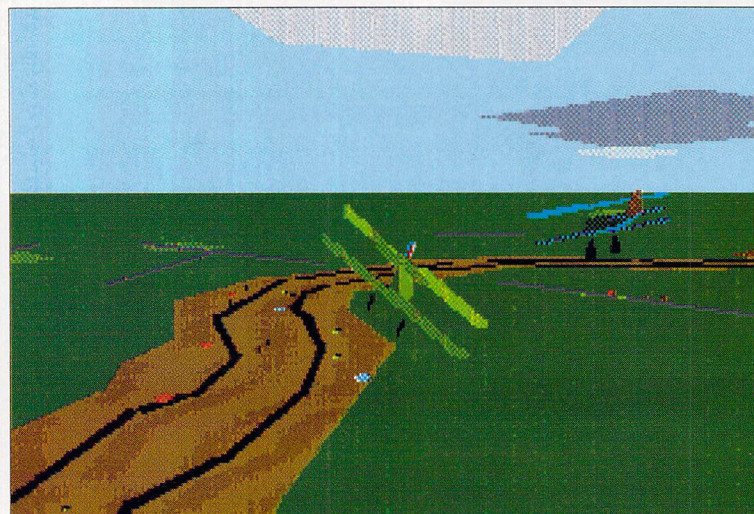
given a series of missions to complete – air superiority, bomber escort, ground attack, balloon busting or something. After each mission, time marches on, new fighters appear and the German aces get even better. There are also a few news stories and rumours about the exploits of the aces – when you feel up to it, you can issue a challenge to one of the blighters and have a go at ending his career. Yes, you can

even challenge Baron Manfred von Richthofen in his red DR1 triplane.

Knights of the Sky uses vector graphics to represent the battlefield – all the planes and ground details are made from solid filled shapes. The

bunkers where the unfortunate foot soldiers are trapped in a murderous stand-off. The frame update isn't the fastest ever, but it's up to the job.

Flying the little planes isn't easy at first. If you're used to jet sims, they come as quite a change. Fortunately, there isn't a mass of commands to



● This is it, chaps! High above the front line our hero meets up with his beer-swilling, sausage-eating opponent. (You, of course, survive on tea and crumpets.) There are over a dozen external views to watch your machine spiralling across the sky.



● After some cartwheels and Immelman turns, you should end up at blasting position. One burst at close range ends it for any plane. It's getting into position that's tricky – these WW1 jobs can turn on a sixpence.



● Flanders is full of juicy targets and everything can be shot up. It's not easy, though – you need to line up on the target accurately. Your Vickers only has a range of 600 feet, so you need to be quick.

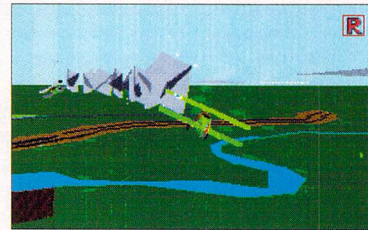


"Dear Mum, thanks for the sweater and cake. Things a bit hairy at the front. Getting on well with the chaps and giving the Krauts a good seeing-to. Enclosed are my socks. Kiss Teddy for me. Love, Biffo."

learn and instruments to get used to. Just fire up the motor and pull up the nose. Scoring a victory is just a question of pointing your plane at your enemy's and pressing <Fire>. Dogfights soon develop into rounds of hectic circling as pilots try to cut inside their adversaries. Early missions end in frustration as the deadly Fokker Eindekkers mercilessly home in for the kill

– careers all round tend to be short and fruitless. The multiple difficulty levels come in handy – perseverance pays off, though, and once you get a grip on the tactics involved, the game comes into its own. Eventually your pilot's career starts to get a hold on you – you try to survive the war with a good record, a few medals and your vital organs intact.

VERDICT: *Knights of the Sky* is a spiffing jaunt into and out of the wide blue yonder. On top of a first-rate flight sim, there's the long term incentive of battling your way through the big one at the controls of a series of fighters. The graphics are comprehensive and you get the impression you're flying around in a complete game world: there are more than just a few fields and build-



● Another victim spins earthward smoking and buys it at the farm back home. You can watch an instant replay of the action at any point in the game. Relive your rare flashes of glory and rather longer periods of ignominy from any of the viewing angles.

MY KINGDOM FOR A CAMEL

As one would expect, the old kite is a simple affair – only a few instruments to keep an eye on. Watch out for bullet holes in the dash as she takes damage. Every plane's cockpit is the same, apart from the armament arrangements.

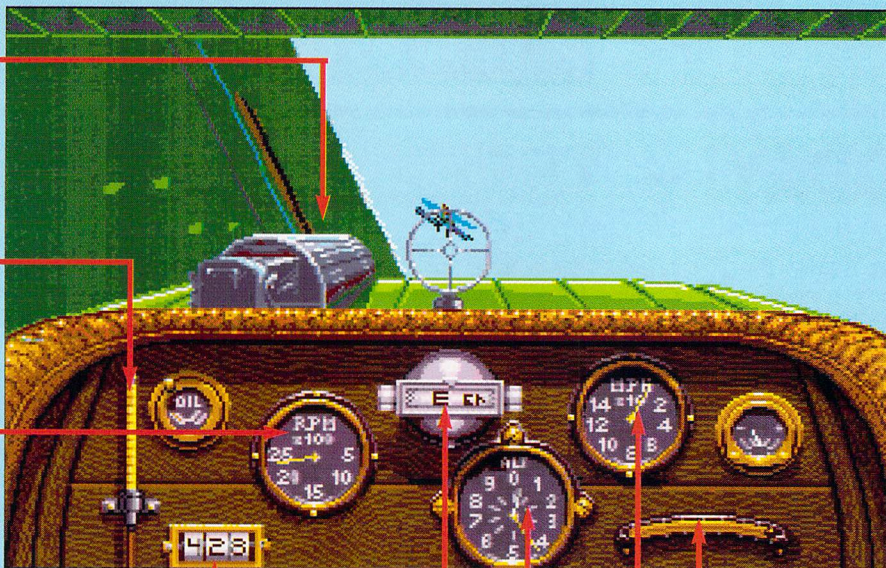
A gun – You need one of these. Early Allied planes only came with a Lewis. Later on, you get the full twin Vickers setup.

Fuel – If the bar disappears, you're out of juice. Let's hope you are out of enemy territory, too.

Air speed – The "how-fast-am-I-going" meter in units of ten mph. Performance varies greatly – try diving if you want to build up a bit of momentum.

Ammunition counter – Fire a bullet and the counter goes down by one. When it hits zero, you'd better be well away from the German fliers.

Altimeter – The "how-high-up-you-are" meter. The little needle points to thousands of feet, and the long one hundreds of feet. Get above the enemy and dive on him if you can. Try and avoid letting the meter read zero if you are not prepared for it. This is technically known as "crashing."



Compass – This and your map are the only navigational aids. Handy in dogfights, too, as you try and figure out if you've just done a 180 degree turn or not.

Slip indicator – Tells you if the plane is slipping to the left or right. Alternatively, you could look out of the cockpit. Not the most useful of instruments.

Tachometer – The "how-fast-is-the-engine-going" meter. Not a awful lot of use really – just whack the throttle up to 100% for max oomph and slow it down a bit to increase handling.

ings here and there to distinguish ground from the sky and provide the odd target. The choice of a WW1 setting brings a new angle and a refreshingly uncomplicated feel to the piloting. There's no frantic scrambling at the keyboard trying to remember which key you need to switch radar modes – it's just you and your skilful joystick manipulation against all the odds. It's not easy at first, so be prepared for a few ignoble bouts of high speed ground kissing. The control sensitivity can get on your wick at times, but get acquainted with it and you're hooked. Chocks away, you fellows! There, made it through the whole review without one Fokker joke.

CHRIS LLOYD

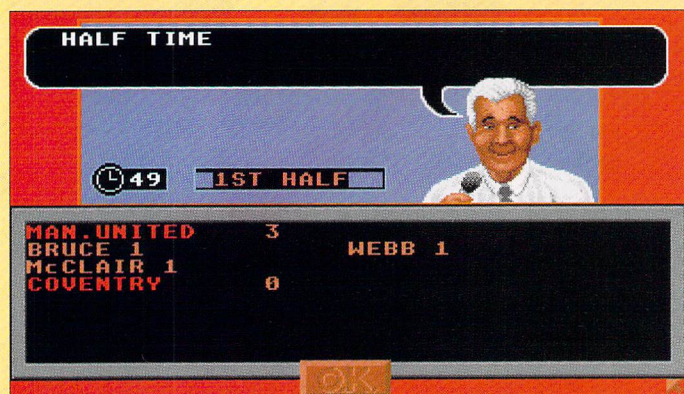
KNIGHTS OF THE SKY

MICROPROSE – £30.99

- Same feeling of a complete game world with lots of missions that you get from *Battle of Britain*.
- Much more flyable than *F15 2* – gives a sense of being there that many jets sims lack.
- The 3D routines aren't as fast and smooth as *Thunderhawk*, but the amount of ground detail is impressive.
- Heaps more long term appeal than *Mig-29 Super Fulcrum* with the ultimate goal of "ace of aces."

STF RATING 91%

FIRST DIVISION MANAGER



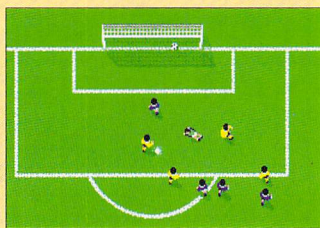
● Half time, and the Monty Pythonesque commentator rolls his eyes and grins inanely, just because he can. It's all action in *First Division Manager*.

Before the big guns (Domark, US Gold) get to hit the management market scene, old-hand 8-biters Codemasters are creeping in with their effort.

As usual, you're the manager of a fledgling team – the fact that it might be Liverpool has nothing to do with it – with all the decisions facing you: which players to pick, which fixtures to arrange, what tactics to use and so on. The information you need is presented as a series of menu and info screens, and to make a decision you just have to click on whatever icon you want. Games are presented as a commentary with the minutes tick-

ing by, and whenever anything interesting happens you're shown an overhead view of the event. Accompanying all this are some rather plainish graphics and now and again a tune or two.

VERDICT: There isn't all that much you can do with a football simulation, so it's all down to the details that are included in each. *First Div Man.* is all right in this department but not as promising – if that's the word you can apply to something as un riveting as football management – as the forthcoming Domark game. Graphically it's extremely simple but at least an effort has



● By golly it's a goal. The crowd, whipped into a frenzy, get out their white noise generators and give it a quick burst of static, then immediately settle down again. Well behaved lads, them.

been made to make what are basically text screens look reasonably interesting.

There's nothing particularly startling here, but nothing that's really laughably awful either. Could be worth a look if you hanker after a life of accountancy.

ED RICKETTS

FIRST DIVISION MANAGER

CODEMASTERS – £7.99

● Graphics are functional rather than impressive, unlike *Player Manager*.

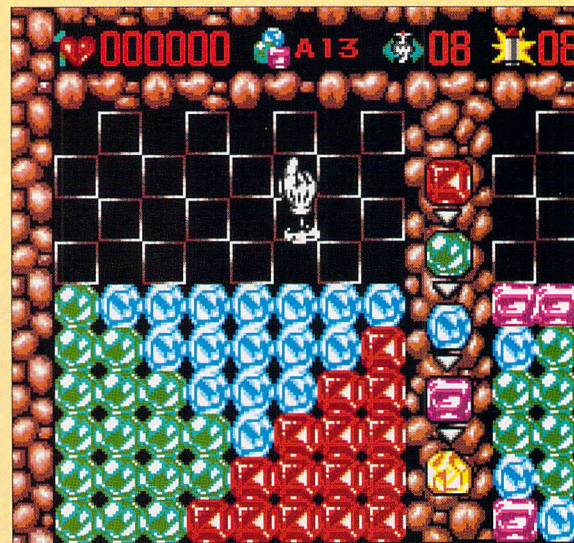
STF RATING 67%

GEM'X

Yes, it's another puzzle game, and no – amazing as it might seem, it's not German. Actually, it's Japanese and features plenty of those identical-looking cartoon faces with the big eyes.

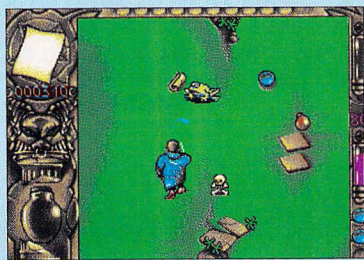
As always, the concept is massively simple. The screen's split into two halves. On the right there is a collection of different-coloured gems, arranged into a specific pattern. On the left is another almost identical collection, but with different colours. The object is to get the left hand looking exactly like the right within the specified number of moves and time limit.

You change the colour of gems by clicking on them. A gem can be red, green, blue, pink or yellow, and clicking directly on one reduces its colour by two; so if it's red it turns to blue. It also changes the



SPECIAL TODAY! – THREE GAMES FOR THE

MYSTICAL Action Sixteen – £9.99



● Why do French games take so long to load? *Mystical* takes an age, and it's not the only culprit. Watch next month for our new series, *The ST FORMAT Guide To Why French Games Take So Long To Load*. It's a scorcher.

If you thought training to be a doctor was hard, you should see what wizards have to go through. The wizard in *Mystical*, for instance, is just at the end of his apprenticeship, but the daft git's gone and scattered all his master's potions and spells all over the place. As a punishment he's been cast (heh) into

a vertically-scrolling shooty game. The wizard, controlled by your good self, makes his way up the level wanging potions and spells at all the greeblies that pounce on him. These potions and spells lie about all over the place and are just crying out to be collected. Every time wiz collects one, he stops for a second to gulp down the potion or read out the spell, then the spell becomes active. You can also collect spells and stash them away for later – do this to combat the big baby-throwing baddie at the end of the level.

Mystical is a groovy little game that offers you great sampled sound, cartoony graphics and a not-too-challenging task, though there are 12 levels to battle through. Definitely worth a look for discerning magic users everywhere.

STF Rating – 73%

FANTASY WORLD DIZZY

Codemasters – £7.99

He's the egg on legs, the yolk bloke with a family album, and he inspires

more terrible egg jokes than any other game character – save, of course, for the infamous and completely fictional Jock "I'm Not Really An Egg Although I Might Look Like One" Egg. He is, of course, Dizzy, the living egg.



● Arrgh! An Editor! Just there, next to Dizzy. You can kill Editors by soaking them with holy water, apparently.

Dizzy's huge (about ten pixels) on the 8-bit machines and his fan club is rapidly growing on the ST too. Ol' Diz gets caught up in all sorts of arcade adventures, usually involving other members of his family (eggs have families too, y'know). In this one you're out

to rescue Daisy, whom, we assume, is Dizzy's, well, eggfriend.

As always, the idea is to trek around your surroundings, finding objects and using them in appropriate places to enable you to progress further – for instance, a jug of water to put out the flames that are in your way. There's nothing very difficult here because you can eventually find the correct place to use each object simply by trial and error.

The graphics are bright and fairly detailed given the simplicity of the game. Diz whizzes about like an egg possessed and does some wonderful somersaults, usually right into a torch resulting in him getting totally and utterly fried. Heh.

Dizzy games are great for a quick bash now and again, but if you've played one you've really played them all. Still, they give reviewers a much needed chance to make jokes like: it's fairly eggciting, but nothing to rave about. And get paid for it.

STF Rating – 72%

colour of each gem that surrounds it by one colour: in this case, red goes to green. Get it so far? Now, when a gem gets to being yellow and it's reduced by one somehow, it disappears and any gems on top of it fall down by one space.

And that's it. There are 400 screens in total to be worked through, any of which can be skipped, but, of course, then you can't complete the game. Effect-wise there's nowt to it, just a few pretty gems and some wibbly tunes.

VERDICT: A bit boring, to be honest. You certainly have a hard time of it working through every level, because some of them are brain-bending in the extreme. Definitely only for puzzle-heads – it's relentless thinking all the way through.

ED RICKETTS

● It's screens like these that make you want to give up before you start. Actually, the ones with many gems on are usually easier than others with only a few. It's all a little pointless though.

GEM'X

DIGITAL MARKETING INTERNATIONAL – £24.99

● Not really similar in concept to any other puzzle games, though in spirit it's a little like *Atomino*.

STF RATING 64 %

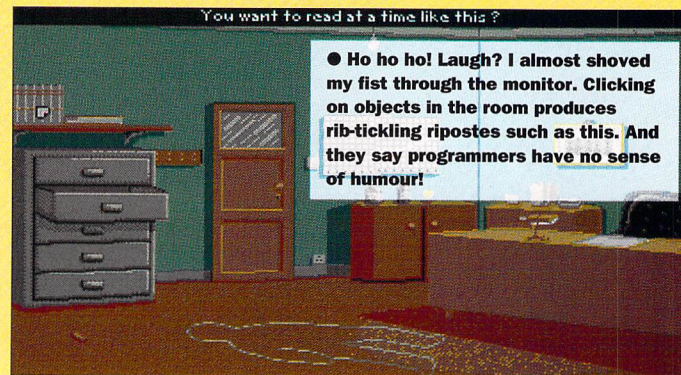
CRIME CITY

Dear old Dad's been banged up for a murder he didn't commit. Or did he? Well, actually that's the crux of the game. With Daddy in jail, it's up to you to clear his name by finding the real murderer of his best friend.

You begin in your Dad's office with piles of letters, a computer and a Filofax™ at hand. When you've sorted through this lot you realise it might be a good idea to leave the office and have a look around the eponymous city. At first you can only visit the pub, the police station, the hospital and a few other places, but as you progress – or not – more places become available.

In most locations you're presented with a full screen graphic and can click the cursor over anything of interest, usually to be greeted with a puerile and pathetic response. If there are characters present you can ask them one of a number of equally puerile questions in the hope of getting some clues. In this way you trek around the town, clicking away and asking like mad, gaining clues and eventually getting enough information to get Dad out of jail.

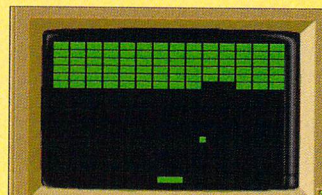
VERDICT: Brownie points all round to IF for trying something a little different.



Crime City's not an adventure in the normal sense, rather a huge lump of information that you have to sift and investigate in the right sequence to get anywhere. The graphics are primitive and the text responses are even worse – in fact, the manual contains a scene-

setting story of such incredible adolescent and amateurish banality you'll want to puke. If you like games where you need to think, observe and have fun, *Crime City* will have to do until such a game comes along.

ED RICKETTS



● The PC on your desk shows you what it's best at. A game with state-of-the-art graphics and stunning sound effects it's not – a bit like *Crime City*, really.

CRIME CITY

IF – £24.99

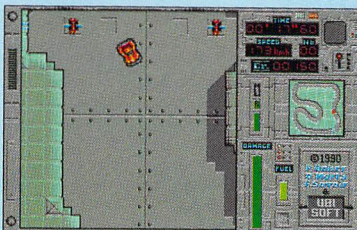
● Story unfolds very much like *Electronic Arts'* oldie *Hound of Shadow*, but unfortunately it doesn't have the same style and atmosphere.

STF RATING 62 %

PRICE OF ONE IN THE BARGAIN BASEMENT

JUPITER'S MASTERDRIVE

Action Sixteen – £9.99



● You can't see any of the other competitors in this shot from *Jupiter's Masterdrive*, because – er, I've managed to leave them all well behind. Honest. Look, I've got witnesses.

Wahay, we're in the future again. Sport's been banned everywhere on Earth, so it's all been transferred to Jupiter and its moons – well, car racing has, at least.

Yes, it's a racing game, with each moon of Jupiter having two tracks to compete on and their difficulty level increasing with their distance from

Jupiter. Or alternatively you can head straight for Jupiter itself and take part in a tournament which spans every track in sequence. Whatever you do, you always end up whizzing around a track viewed from overhead, collecting the useful gadgets and avoiding all those nasty gadgets – like fuel and glue respectively.

Controls are quite straightforward: <Fire> if you want to accelerate, left and right to – er, go left or right and... you get the picture. There's not a great deal to the game really – it's more like those old TV games that were around about 1982. The graphics and sound are unremarkable, as is the whole game, really. Nice for those with a car/planet fixation though.

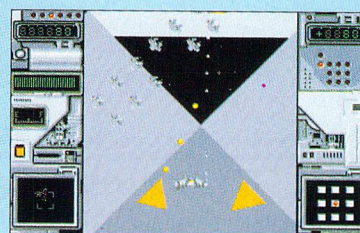
STF Rating – 62%

ROTOX

Action Sixteen – £9.99

Rotox, née Kowolski, is a *Robocop*-style rebuilt dude, a fighting machine with metal bits where once there was only soft flesh. (Yuck.) And he needs

thorough testing to avoid that embarrassing bits-falling-off scenario mid-combat. So his makers whizz him off to a small base they happen to know just outside Neptune and throw everything they've got at him – big, tough things with massive guns and bombs.



● If this *Rotox* thingy is so flippin' advanced, how come it's not able to fly like all those other nasties can? That would certainly stop it falling off the ledge at every opportunity. Game designers? *Schmame* designers.

Each level of the game consists of a large flat plain divided into a grid of nine sections. These sections are vari-

ous shapes depending on the theme of the level – cars, spaceships and so on. You view the playing area from overhead, and see *Rotox's* head and shoulders as he strides about. The view centres on him and rotates as he turns. You have to be careful you don't fall over the edge of the platforms because it's a long way down. To make it even more difficult, to cross between sections you have to negotiate tricky sliding platforms.

And, of course, from all sides you're constantly being attacked by nasties of all descriptions. You've got a gun but the bullets seem to emerge from one arm, making it awkward to line up shots.

So the levels progress, getting trickier in design and more ferocious in what they throw at you. It's all good fun for a while but hardly original and not likely to induce heavy addiction. The sound and graphics aren't particularly special either. Not an epic, but then again, not a disaster.

STF Rating – 61%

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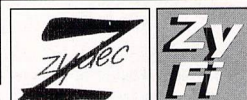


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CHAMPIONS

Champions contains three games, each featuring the kind of sport you can't be bothered to actually play yourself. Are the games themselves "champions?" Or are they "not very good at all?" Step into the pongy, echoing changing rooms to find out.

JAHANGIR KHAN WORLD CHAMPIONSHIP SQUASH

3D isometric squash court views ahoy! You take the place of the immortal JK in – er, an awful lot of squash games. First you train, practise and beat the club-level people, then you get hammered by the pros.

Select your level and enter the court. Waggle your joystick in the general direction of the ball and hey presto! You're a squash master.

Graphics and sound are really neat. It's smooth, fast and you can't take your eyes off the ball. Getting used to the weird 3D through-the-wall view is a bit tough, but if you persevere, you can tell your chums that you persevered. It's well worth it – as long as you like squash – and it's a real challenge.

WORLD CHAMPIONSHIP BOXING MANAGER

It's okay. You're just the Manager. Your face is safe. Anyway, here you acquire a "stable" of lads who fight if you pay them money. Train them, arrange money-spinning deals, drive a ridiculous



● **Champions** – the compilation where you play the games you always wanted to, but were too ashamed of your legs to dare to put on a pair of shorts.

car and grow a very attractive Don King hairstyle. It's all here.

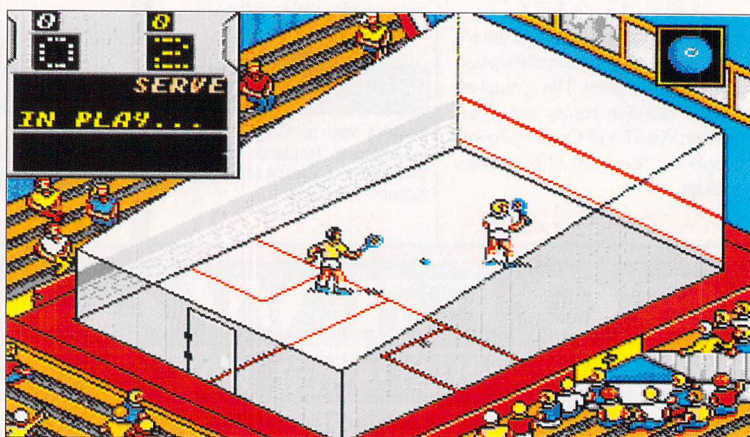
Slideshow graphics and clicking icons are the order of the day, with no views of the pugilists themselves when the fights actually happen – you do see the commentators, though. Phew.

World Championship Boxing Manager is basically a poor management sim with a couple of animated screens. There are no shiny black shorts, uppercuts or dented four-wheel drive vehicles. It's a pity, because a decent fight sequence would have improved the game no end.

MANCHESTER UTD

Don't know what this is doing in a **Champions** compilation (ha ha). It's a cross between a management game and *Kick Off*. As such, it doesn't really succeed too well at either – well, the management bit is pretty much par for the course.

Everything is icon-driven and you can flick through the screens with the minimum of faff – great if you just want



● **Jahangir** actually means "he who sweats less than his neighbour's ox during a particularly tough rally." Get totally hammered in game after game of squash.

to hit the pitch, as it were. The game itself is viewed from a standard commentary box. This looks okay, but the implied 3D can mess with your perfectly executed banana shots – at least until you get used to it. Control isn't that good, compared to *Kick Off*, but it's quick and frantic. And what more could you want of a footy sim?

The players you select, how you train them and how fit they are does actually affect your performance on the pitch, but mostly it's down to you bungling every ball that drifts anywhere near you. The best option is to select two-player mode and enjoy being not-very-good with another warm, caring human being.

VERDICT: *Jahangir Khan* is a lot of fun, and *Manchester Utd* might collectively

tickle your fancy, but *Boxing* certainly won't knock you out (sorry). If you're a sports fan, you get a fair mix of management and action here. On the other hand, it'd probably be much better for you if you went outside and actually participated in some *real* sport before your legs fall off.

JAMES LEACH

CHAMPIONS

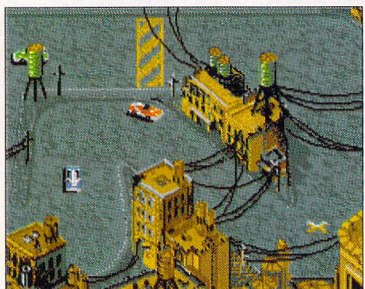
KRISALIS – £19.99

- A varied bag, well, cardboard box. *Jahangir* and *Manchester* are the ones to go for, though.
- One more sporty game wouldn't have gone amiss – or perhaps it did.

STF RATING 62 %

TNT 2

Generally, the point of compilations is to offer a number of good or excellent games collected together at a reasonable price. Domark obviously have different ideas about what makes a compilation. The five games collected in *TNT 2* are *Hydra*, *Skull & Crossbones*, *Badlands*, *STUN Runner* and *Hard Drivin' 2*.



● Look, that's not fair. Someone's gone and left a huge spanner in the way of the drivers in *Badlands*. What a concept, though – driving round and round a track lots of times. It must have been what 16-bits were made for.

HYDRA

This is a terrible racing-across-water-shooting-the-bad-guys game. There's some pathetic wibble about you being a courier, but all it



● A golden opportunity for the "must have taken the wrong turning" gag, deftly avoided on the grounds of it being crap. *STUN Runner* is the best of a poor bunch.

involves is dodging, shooting, dying and restarting. The graphics are awful and the sound's worse. Completely without merit.

BADLANDS

This is a little better. It's another racing game, but viewed from a sort of above-pseudo-3D angle. Each track takes up one screen and you race your dinky little car around at breakneck speed, bashing into walls and the other drivers.

Good fun for about three and a half minutes, if you like that sort of thing.

SKULL AND CROSSBONES

Another complete and utter dud. A coin-op conversion that manages to look like it's been converted from a Spectrum game, it involves gadding about on a ship doing nothing much aside from collecting coins and killing pirates. Formatting fodder for sure.

HARD DRIVIN' 2

At least this keeps you going for a bit longer – if you haven't got the first *Hard Drivin'*, of course. This time you're racing around a speed or a stunt track with a slowish 3D view but with some nice stunts to try. There's a track editor built-in too, which is comprehensive but a little complicated.

STUN RUNNER

Strangely enough, of this motley collection *Stun Runner* comes out best. It's – yes! – a racing game set in the future, with another 3D view. Here you zoom through tunnels, climb the walls to reach the stars – giving you extra time to complete each lap, and blast the other competitors should they dare to get in your way. Again, it's slow, and not likely to last for very long.

VERDICT: If you want racing thrills and even spills, paint your windscreen black and go for a spin around the M25 rather than buy this collection of duds. Avoid as you would Dr Lecter.

ED RICKETTS

TNT 2

DOMARK – £29.99

- There are many better compilations around. Actually they're all better than this one – just get anything but this and you're laughing.

STF RATING 44 %

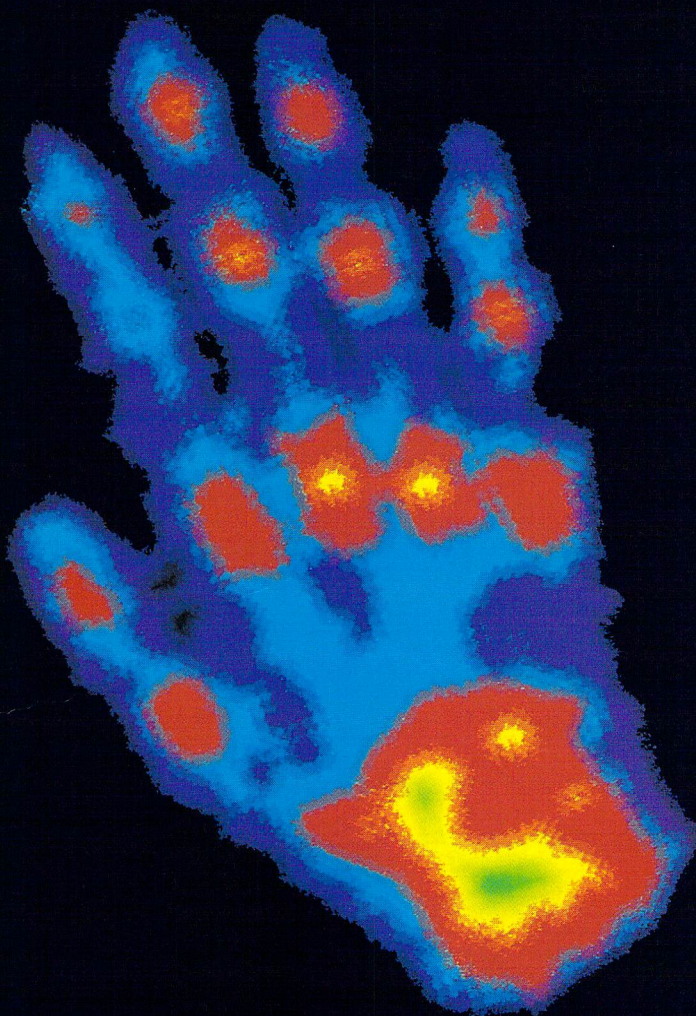
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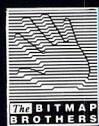


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THE DIZZY COLLECTION

The time's soon going to be here when *Dizzy the Movie* arrives and we can all see the eggy fella on the front of *Time* and *GQ*. Until then though, Codemasters are giving you the chance to catch up on all his ST games to date with this five game compilation.

MAGICLAND: Zaks, the evil wizard, has imprisoned the Yolkfolk – those are Dizzy's friends, apparently – across the *Magicland* in various dastardly ways. Dylan, for example, has been rooted in a tree to the ground, Daisy has been enlarged and is now residing in Zaks' oubliette and so on. Dizzy's job is to wander round the land finding the necessary objects to solve the puzzles and release his friends. As usual, the graphics are bright and colourful and Dizzy seems to have gained some extra athletic abilities along the way – he's very bouncy for an egg.

KWIK SNAX: Dizzy's friends are up the creek again, all because Zaks got a little miffed with them. Each of the Yolkfolk has been sent to a land corresponding to their personality – for example, Denzil thinks he's dead cool, so he's ended up in Iceland. It's down to Dizzy to free them (again).

This time, you're presented with a series of one-screen levels filled with objects appropriate to whichever land you're playing in. Some of these objects can be pushed to kill the nasties that zoom about the place, while others need to be collected to finish the level. There's a bonus level after each successfully completed screen, and finishing five such screens means you rescue your respective friend. The



● Dizzy's such a role model – look at the eggmen in *Magic Pockets*, for instance. Here, in *Magicland*, Dylan gets close to the earth in, like, a big way. (And no eggplant jokes in sight.)

game concept's very simple and it doesn't take you very long at all to whip through all the screens. Definitely one for the kids.

FAST FOOD: Another puzzley one. This time, for some inexplicable reason, Dizzy's bombing around one-screen mazes chasing after fast food – pretty good pun, eh? – such as pizzas, fried chickens, hamburgers and french fries. Also in the maze are some nasties you don't want to meet – speed you up, slow you down, and so on and so forth.

This really is gameplay at its simplest. There's nothing even remotely taxing about running round a maze collecting objects and avoiding others.



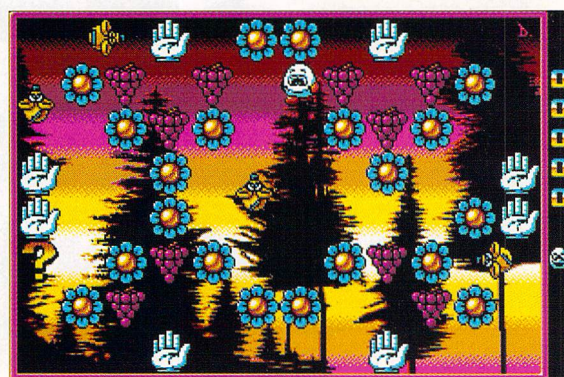
● Wonder what Dizzy's origins are? Just how did an egg get to be called Dizzy, and end up wearing red gloves and wellies? *Fast Food* – surreal, but just a teensy-weensy bit boring.

Mindless and likely to cause severe ennui after two plays.

TREASURE ISLAND DIZZY: Back to the wander-find objects-solve puzzle-style here. Obligatory wibble: Dizzy's stranded all alone on a desert island, far away from the Yolkfolk. He can either search for the 30 pieces of gold that are hidden around the island and then scarper (the extremely hard solution) or just scarper immediately (the not-quite-so-hard solution). Once again, it's down to using the correct objects at the right time.

The graphics are much simpler than those in the other Dizzy games, even the puzzle-style ones. The gameplay isn't, though – there's a lot to do and explore before you can hope to get off the island. Fair fodder for a few hours play if you've got nothing better to do.

FANTASY WORLD DIZZY: This game is reviewed as a separate package on page 112 as part of the budget round-up. Suffice it to say here that it's probably the best-looking of the Dizzy games and offers just about as much gameplay as the other two non-puzzle games in the collection.



● Cuckooland in *Kwik Snax*, so named because it's full of gloves, grapes and flowers, presumably. There's a certain sort of twisted logic behind that, isn't there?

VERDICT: Some people just can't get enough of Dizzy games, while others might balk at the mere thought of playing just one. The three arcade adventures in *The Dizzy Collection* are all pretty much the same, gameplay-wise, so the two puzzle games, while being simple, offer a bit of variety. On the whole, though, they are all extremely simple games and unlikely to thrill anyone over the age of 11 for very long. Anyway, this is all pretty irrelevant since we have it on good authority that eggs are definitely out this year – 1992 is the year of the orange.

ED RICKETTS

THE DIZZY COLLECTION

CODEMASTERS – £24.99

● Dizzy games have carved a niche for themselves by being silly, challenging and appealing (provided you're under 12, or sedation, or both). There really aren't any other games which bear much comparison.

STF RATING 71 %

SPACE GUN

There's a choice to be made here. Do we wibble on about the pointless plot and explain the game's setting in great detail, or do we avoid all that and tell you straight off that *Space Gun* is a game for those who find *The Sunday Sport* intel-

lectually taxing? The latter: *Space Gun* is a game for those who find *The Sunday Sport* intellectually taxing. It's set on a spaceship, where you're attacked by aliens desperate to pull your arms out by the roots, wave them about and sing the

national anthem of Bolivia. The only thing between you and certain death is the on/off switch. Oh, and your space gun, of course.

The routine goes something like this: see approaching monster. Point the gun, fire. Bits fall off of monster (arms, head). Point gun, fire. Monster explodes. Move down corridor slightly. Shoot box on wall to give you extra and better weapons to toast the monsters more quickly. See approaching monster. Repeat ad infinitum.

Graphically and sonically, chances have been missed everywhere. Graphics are jerky and unconvincing. There are a few samples (when a monster dies, or you get hit, for instance) but the rest is the same old chip noise.

VERDICT: *Space Gun* is the first non-Trojan game to work with the Light Phaser. The subject matter suits the gun perfectly, but actually it's easier to use the mouse. Continually pulling the trigger on the gun wears you out in no time,

whereas with the mouse you can hold down the button and select extra weapons.

It's mindless and repetitive nonsense, but not the fun sort of nonsense *Llamatron* offers. The asking price is ridiculous for such five-minute fodder, and it's time Ocean asked themselves if they want to peddle such rubbish any more. You certainly won't want to buy it.

ED RICKETTS

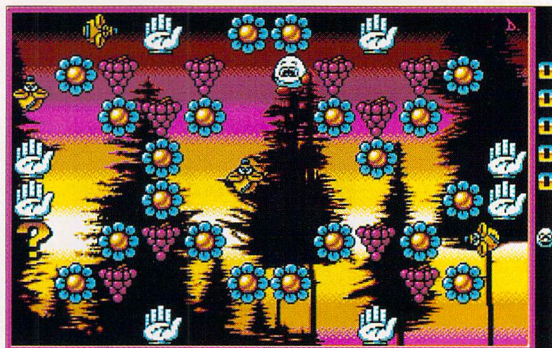
SPACE GUN

OCEAN – £25.99

Can use a Trojan light-gun

● Dull. Dull. Dull. Dull. Dull. Not very exciting. Dull.

STF RATING 32 %



● *Space Gun* – a waste of time, money and even thought. You can recreate the sort of excitement the game offers by beating yourself senseless and spending the next four months in hospital recovering.

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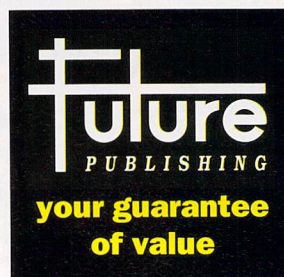


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FORMAT RATINGS REVIEWED

How did **FORMAT** rate the games reviewed over the last three months?

ROBOCOP 3	page 99	94%
ANOTHER WORLD	STF 33	93%
REVENGE OF THE MUTANT CAMELS	page 122	92%
KNIGHTS OF THE SKY	page 110	91%
RICK DANGEROUS	page 106	90%
MERCENARY 3	STF 32	90%
Germ Crazy	page 122	88%
Titus the Fox	page 96	85%
Storm Master	STF 33	84%
Shadowlands	STF 33	84%
Deuteros	STF 32	83%
James Pond	page 106	82%
Four Wheel Drive	STF 33	81%
Sir Fred	page 106	79%
Elvira the Arcade Game	page 102	79%
Advantage Tennis	STF 32	79%
Disciples of Steel	STF 33	79%
The Enforcer	STF 33	78%
The Immortal	STF 32	77%
Nightmare	STF 33	77%
Boston Bomb Club	page 122	76%
Resolution 101	STF 33	76%
Barbarian 2	STF 32	74%
Megatwins	STF 32	74%
Mystical	page 112	73%
Special Forces	STF 33	73%
Fantasy World Dizzy	page 112	72%
Life and Death	page 122	72%
Mindbender	page 107	72%
Ultimate Golf	page 121	72%
Voodoo Nightmare	page 107	71%
Dizzy Collection	page 119	71%
Subbuteo	page 122	70%
Cyber Assault	STF 33	68%
First Division Manager	page 112	67%
Thunderstrike	page 107	67%
Toyota Celica GT Rally	page 108	65%
Gem'x	page 112	64%
Rubicon	STF 32	64%
Race Drivin'	page 105	63%
Unreal	page 105	63%
WWF Wrestling	STF 32	63%
Crime City	page 113	62%
Jupiter's Masterdrive	page 113	62%
Champions	page 116	62%
Rotox	page 113	61%
Combo Racer	page 108	61%
Devious Designs	STF 32	61%
Golden Eagle	STF 33	61%
Paragliding	STF 33	59%
Venus The Flytrap	page 108	58%
Manix	STF 33	55%
Firestar	STF 33	55%
Thunderjaws	STF 32	54%
Double Dragon 2	STF 32	52%
Under Pressure	STF 32	51%
Brides of Dracula	page 102	49%
TNT 2	page 116	44%
Ghouls 'n' Ghosts	page 108	44%
Great Napoleonic Battles	STF 32	43%
Steve McQueen Westphaser	STF 32	42%
Space Gun	page 119	32%

NOTE: Games in red are reviewed in this issue

ULTIMATE GOLF

Golfers do it in conditions that most of us fog-, rain- and storm-fearing mortals usually prefer to avoid. Golfers, however, are so dedicated to achieving that elusive hole-in-one, that they're prepared to walk around some exposed spot carting a load of sticks which they then use to hit hard white spheres into holes. Or that's the theory. Chances are that the ball actually ends up in a conveniently-placed sandbank, the rough or some water, and they have to spend hours fiddling about hunting for the ball getting wet feet and increasingly bad-tempered.

This is the exciting game *Ultimate Golf* simulates, but it has the distinct advantage that you don't have to move away from the comfort of the chair in front of your ST. You control Greg Norman if you're playing on your own – or you can play with up to three mates as yourselves or taking the parts of other celebrity golfers. If you don't have that many willing friends, your ST happily provides some, so you don't feel too disadvantaged. The aim of the game is the same as in real golf – to hit the ball into the 36 holes, played over two courses – using as few strokes as possible.

The advantage of *Ultimate Golf* is that you can choose the weather you want – how strong you want the wind to be, and the force of the driving rain, for example. Choose the club you want to use – or you can leave that to the long and hard-thinking caddy, so at least you have someone to blame when it all goes horribly wrong. And you know when it has, since your ST splashes "Disaster" unequivocally over the screen if you're slightly over par. It sure expects you to play well – and that's actually pretty tough for you need quick reactions if the ball is to go in a straight line and therefore not totally mess up all the careful planning and weather control you've been doing. You see, you work out how hard you want to hit the ball –

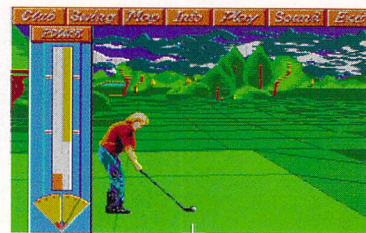
up to 112.5% the average distance of specific club you've chosen, and indicate that by holding down the mouse button until the required power is achieved. You then have a very limited time to line up your shot by pressing <Fire> when two needles coincide. If they don't line up – and it's near-impossible to get them to – your ball veers off in completely the wrong direction. Of course, this all adds to the number of strokes you need to get the ball in the right place. It's a relief when you get to the green and just putt, since direction suddenly becomes immaterial – you automatically hit straight.

VERDICT: There's a practice mode, so all need not be lost – and you won't lose face every time you want to play a real game. If you do totally mess things up by getting too intimately involved with the water hazards, you can always replay the shot, although it's fun to use the power to walk on water you magically acquire.

The graphics are well-drawn and the course so green you almost feel as if you've been in the country after a couple of holes. When you hit the ball you hear a satisfying

"knock" – and that's it for sound effects. All in all, *Ultimate Golf's* an interesting challenge with plenty of variations to experiment with. Even if you think you have no interest in golf at all, you could do worse than trying this for some exercise.

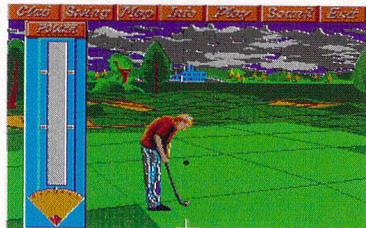
PAULA RICHARDS



● *Ultimate Golf* – all you have to do is to line up the needles – together – and your ball goes where you want it to. Sadly, Greg's made a right hash of this.



● This is where the decision making starts – click on the icons to alter the weather, your club, and whether you really want to play in the dark or not.



● At last! You finally make it onto the green – but don't worry, you don't have to stay there if it's too easy, look at all those lovely sandbanks and puddles you could hit the ball into instead.

ULTIMATE GOLF

GBH – £9.99

- Needs a bit of brain power to beat the competition and quick reflexes with the mouse.
- Very green scenery with some good views.

STF RATING 72%

WILD AT HEART AND WEIRD ON TOP

Let's be honest, the amount of thought that goes into the plot of most games can be summed up using these words (rearranged): much, not, very. But occasionally, some real weirdos come our way as Ed Ricketts discovers

Reading *ST FORMAT* every month, you can't help but notice that some games have ideas, plots or concepts that are, well, a tad different to most. In some of these games, the plot bears no relation whatsoever to the gameplay, while in others the plot is the gameplay. Now at last, as a public service, *STF* can present the definitive guide to these opuses – Five Games That, If They Were People, Would Be Someone Like David Lynch or Dennis Hopper.

AND NOW A PUBLIC SERVICE ANNOUNCEMENT

ST FORMAT would like to point out that yes, although we are remorselessly shooting these games down in flames for daring to be different, we do actually welcome games with bizarre, twisted or original concepts. The more the software houses come up with different and interesting ideas, the better, as far as we're concerned. Thank you. (And how do you spell "hypocrite" anyway?)

Game:

Type of Game:

REVENGE OF THE MUTANT CAMELS

Cover Disk 31

Reviewed here and now – 92%

1



Type of Game: come on! It's a Jeff Minter game – what d'ya think?

● Cosmic guru Jeff Minter gets, like, distinctly unmellow and lays on the photon laser blasts thick in the immortal, the incredible, the – er, spacious *Revenge of the Mutant Camels*.

GERM CRAZY

Electronic Zoo

Reviewed *STF* 25 – 88%

2



Type of Game: can only be described as an operate-'em-up, but with some shoot-'em-up elements and even a little care-'em-up.

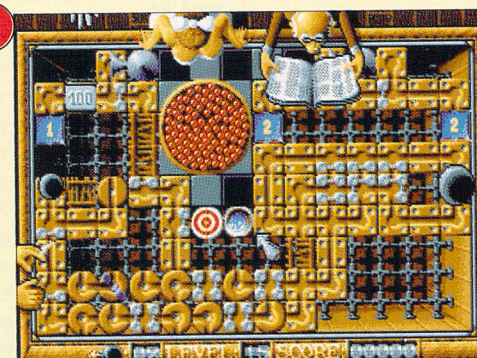
● Death comes in the form of hundreds of cold cells infecting your brother. So get on in there and shoot the hell out of them.

BOSTON BOMB CLUB

Palace

Reviewed *STF* 28 – 76%

3



Type of Game: puzzle.

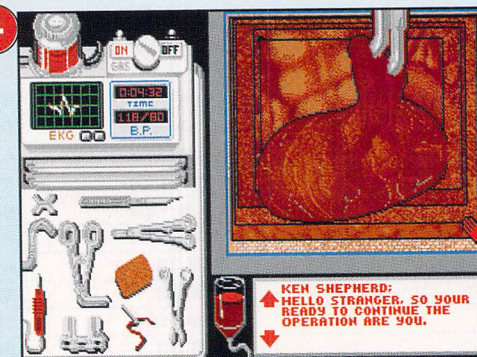
● As bizarre concepts go, this one is completely gone. Boston is, of course, renowned as a centre of excellence for bomb-rolling and boasts some of the world's finest bomb-rollers – no, sorry, I can't go on, it's too silly.

LIFE AND DEATH

Mindscape

Reviewed *STF* 26 – 72%

4



Type of Game: incredibly, it's another operate-'em-up.

● Hmm. Strange stuff, this. Just look at those squiddy bits. *Life and Death* is a stonkingly great idea for a game. Wonder if medical students play simulations of being game programmers?

SUBBUTEO

Electronic Zoo

Reviewed *STF* 17 – 70%

5



Type of Game: simulation of a table-top football simulation.

● Old Grobelaar's looking a bit dodgy. His left foot's come right away from his base, look. Pity there's no simulated sofa to lose the simulated pieces down the back of.

The Plot So Far:

The Plot So Far: believe it or not, there is a plot to explain why you play a camel aided by a goat as you stroll down the solar highway blowing hell out of telephone boxes, exploding sheep and joints; but it's so stupid even by these standards that to reproduce it here would completely destroy any sense of confidence you may still have left in games programmers.

Object of Game:

Object of Game: shoot things. Collect bonuses. Shoot things.

Stupidity Factor:

Stupidity Factor: 0. It's not at all stupid. It's certainly more believable than 99.4% of all the other plots that accompany perfectly harmless games that neither need or benefit from a plot, anyway.

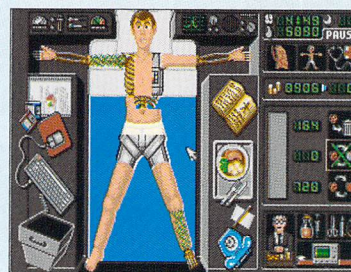
Weirdest Part of the Game:

● **Weirdest Part of the Game:** having just survived a wave of famous spaceships, you're a little less than thrilled to find a horde of Sidneys on, er, Portalavs, bouncing along with intent to kill. About here, taste takes its final bow and does a swift exit.

The Plot So Far: well... your brother is dying from a hideous new strain of the cold. So, of course, the scientists decide to miniaturise you, inject you into his body and leave you to sort out the germ cells on your own. Happens all the time in Japan, apparently – didn't you see it on *Tomorrow's World*?

Object of Game: roam the body, search out the germ cells, fight them with defence cells of your own and repair parts of the body that have already been infected by replacing them with artificial limbs. Does the word "sick" spring to mind at all?

Stupidity Factor: 3 in 7. Well, if you believe miniaturising your close friends and relatives to cure you of your ills is a sensible idea, that's up to you. Presumably someone must like the idea – did you see *Innerspace*?

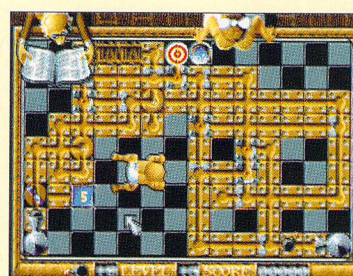


● **Weirdest Part of the Game:** when, in a carefully-researched and authenticated bit of graphic artistry, parts of the body either wither away and become bare skeleton or get replaced by artificial limbs in the twinkling of an eye. And the dude on the table is still breathing. Yeah, right.

The Plot So Far: it's the 19th Century. Somewhere in the wilds of Boston, a group of scientists gather each evening to roll bombs around a converted billiard table. On said table are toilets, bridges, pipes, babies, turntables, trampolines and gates designed to thwart the bombs' progress as they trundle about. In addition, members of the club occasionally chip in and change the gates, move the bridges and generally ass about with the setup.

Object of Game: to make the bombs roll into the targets by manipulating the bridges, gates and so on and so forth before they (the bombs, that is) blow up.

Stupidity Factor: 10/10. What are these people on? Where do the babies come from? Why is it set in Boston? Why a billiard table? I mean, just what?

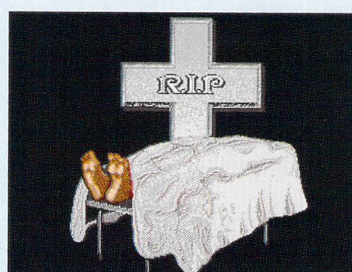


● **Weirdest Part of the Game:** there you are, innocently wanging your bombs about, and on crawls this baby. (The club mascot?) Anyhow, this baby crawls across the table bawling his head off all the time, grabs one or two of your bombs and then toddles off again, only to return later on and replace your bombs in a completely different area. Huh?

The Plot So Far: the trainee doctor arrives at the hospital on his first day. Pausing only to stop off at the meeting room to look at a few blackboards-full of text – thus bypassing seven years of medical school – he's soon in there prodding patients (medically, that is), hacking them open and wading among their innards with all the gusto of James Robertson Justice after four cans of Diet Coke. You are that trainee doctor, and you'll believe a man can die when you attempt your first appendectomy.

Object of Game: killing patients. Ignore the manual which pretends the idea is to cure them via a series of appendectomies and aneurysm grafts – your kill count's what matters. Get those stiffies piled up and you're doing a good job.

Stupidity Factor: 6/10. Thankfully, the game only includes those two operations, otherwise the SF would be somewhere in the 700s. But where's *Life and Death 2: The Brain*? Think of the possibilities.



● **Weirdest Part of the Game:** when you botch up an operation and the Chief Surgeon, big-heart that he is, consoles you with "Never mind. Surgery isn't easy, so keep trying." Hey, have another patient to practise on while you're at it.

The Plot So Far: long ago, Waddingtons came up with the great idea of simulating the fast-moving and tactical game of football using small plastic men and a ball that was half their size on a 3ft x 2ft board. The name of this masterpiece is legendary – *Subbuteo*. Later, software house Electronic Zoo thought it might be a neat idea to transfer this simulation to the ST – after all, they did it with *Trivial Pursuit*. Howls of derision ensued, though unfortunately the game turned out to be quite good.

Object of Game: to manipulate your simulated plastic men to hit the simulated plastic ball into the simulated plastic goal by simulating a flick. Simulated joy then occurs, followed by a simulated upsetting of the board by you turning off your ST.

Stupidity Factor: 1,321 per annum per capita. Possibly the daftest, most pointless and ridiculous concept in software gaming history. We love it.



● **Weirdest Part of the Game:** actually, the weirdest part comes right at the beginning, when you're presented with a picture of all the pieces laid out in the box and you get the chance to change the colour of their shirts, shorts and so on. Just keep thinking to yourself, "Reality is a relative concept."

GETTING DIGITAL – or FIRST GET HOLD OF AN IMAGE

Where can you get your hands on these digital delights, then? The Public Domain is a rich source of clip art, but a lot of it is pretty awful dated stuff ported from boring office machines – lots of flares and side partings. The ImageArt Public Domain library (☎ 081 767 4761) has a more interesting range than most. Or you can always scan stuff yourself. Handheld scanners have come down in price over the last couple of years – you can now pick one up for little more than a ton. Look out for a roundup of available scanners next month. Then you can get at any printed matter – the oversize section in the library becomes your own image database. Or, using VIDI-ST (£84.95 from MJC Computer Supplies ☎ 0462 481166), you can grab an image directly from a video, as seen in dozens of slideshow demos. That's not all either – use a snapshot program like *Megasnap* from issue 29's Cover Disk to grab screens directly from your ST. The world can be your oyster – almost any picture can be brought up on your ST's screen and customised.



● Using various digitising methods and an art program, you can get in reach of stunning pictures without any hassle. This picture was created by converting a scan to greyscales, adjusting the palette, cutting it out as a block, flipping it round and pasting it back down again.

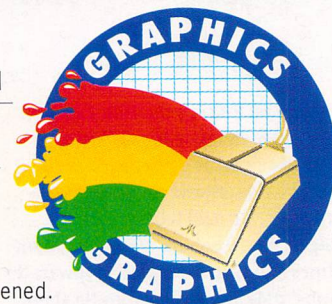
Process to improve

Retouching is a serious business. You can restore, correct or improve any images you import into your ST, just as if you'd drawn them. Chris Lloyd has been touched again

Ever looked at the covers of the glossies and wondered where they find all those people with perfect skin? Simple – they don't. With the aid of our digital friends, the pictures have been retouched. Spots are removed, colourings changed, noses straightened out

– all sorts. If an image is going to be flashed before your eyes in a demo or printed out for *Vole Fancier Monthly*, then it could probably gain from a spot of retouching. With your ST and a program or two, any aspect of a picture can be tweaked. With a standard art package, areas can be redrawn or

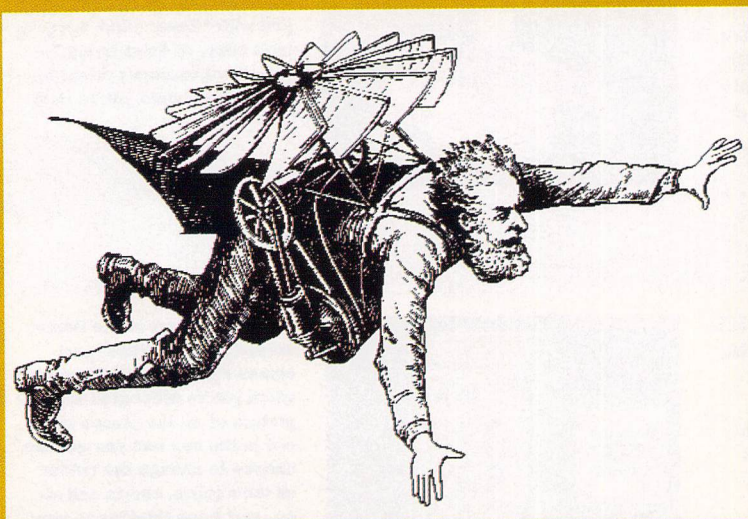
moved, resized or distorted. Don't like the way the vole is sitting? Then rearrange his little legs a bit. Is there a funny-looking bloke in the background? Just paste a tree over the top. With the aid of image processing software, the brightness and contrast can be tweaked, images blurred or sharp-



ened.

You are at the controls – if a picture can be shown on the screen, it can be fiddled with. Here's a brief guide to how.

THE ORIGINAL FLYING DOCTOR COMES A-CROPPER-LIS



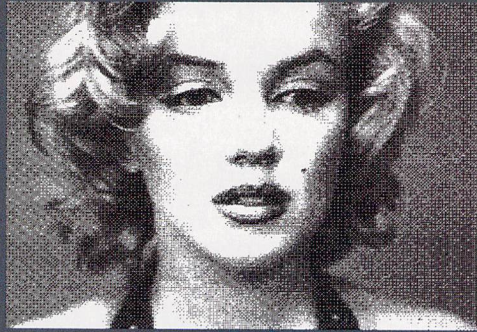
① The Public Domain is an ideal source for material – there are hundreds of pieces of clip art about, often ported from the PC bore and the Mac. Here is a scan of a Victorian-looking line-drawing featuring an early member of the lighter-than-air club (now deceased). Using *IMG to Degas*, a handy Public Domain program, the original IMG file is converted into a P13 ready for editing.



② More source material. A photograph scanned from a tourist brochure of a Greek hotel – it'll look good when it's finished. The scan was done at 200 dots per inch in dithered mode – meaning that the shades of colour are represented by different densities of dot patterns. It looks a bit of a mess in raw form, but will look brilliant when converted to real greyscales.

MANIPULATING MONO – IMPROVING ON NATURE

One of the main uses of retouching is in the world of DTP. Any image can be improved – little glitches removed, bits added and generally mucked about with. Your ST, with its excellent high resolution mode, makes an ideal tool. High res images come in three basic flavours – bit-mapped IMG files, *Degas Elite* PI3 picture files and GEM metafiles. The first two are made up from little dots or pixels: IMG files can be any size, while PI3 files are the same size as your ST's screen. Almost all clip art comes in these forms. GEM metafiles are made from vectors rather than a fixed series of dots. They contain a description of the picture rather than the picture itself, so it can be resized and squished without losing quality. Bitmapped pictures are the easiest to deal with and can be edited in any decent mono art program. The software ranges from Public Domain programs such as *Butterfly Artist* to real heavy-weight packages like *Megapaint* and *Retouche*. You pays your money and you takes your choice.



● It's her again – scanned, saved as a PI3 picture and loaded into *Canvas* for a quick retouch. That mole is in the wrong place for a start. Wouldn't it look better on the left? No problem.



● That's better. While we're at it, let's give her a totally new look. One eye is cut out as a block, given a quick edit and pasted back down again. She was from outer space, right? It was in the *National Enquirer*, so it must be true. Look, here's the proof.

TOOLS OF THE TRADE – PACKAGES CAPABLE OF RETOUCHING

Crack Art – Public Domain

Very polished low resolution art program, better than most commercial packages. Heaps of effects and tools.

STF Rating – 94%

Retouche – £175, CCS ComputerBild ☎ 081 686 8121

Unique and powerful image processing software for manipulating mono scans. Baby brother of the outstanding Professional version.

STF Rating – 93%

MegaPaint – £89.95, Silica Systems ☎ 081 308 0888

Stunning high res paint program – more features than you can shake a stick at.

STF Rating – 93%

Deluxe Paint – £59.99, Electronic Arts ☎ 0753 549442

The best package for editing screen sized colour images. Luvverly colour and block manipulation tools.

STF Rating – 92%

Butterfly Artist – Public Domain

Mono art program that can work with any size of image. Well featured.

STF Rating – 90%

Canvas – Yours free on this issue's Cover Disk! See page 14.

Excellent, easy to use art program that runs in all resolutions – ideal for editing screen sized images (and much more – see the feature on page 32).

STF Rating – 90%

Atari Image Manager

– Public Domain

Initially complex and frustrating image processor but capable of some clever effects.

STF Rating – 82%

Degas Elite – £25.99, Electronic Arts ☎ 0753 549442

Art program that runs in all resolutions and can convert between them. Short on the flashier functions, though.

STF Rating – 80%

Pic Switch – Public Domain

Converts between picture formats and resolutions. Does a good job at turning mono screens into low res greyscales.

STF Rating – 80%

HyperPaint – £24.99 (v2, for the STE, £34.99), Silica ☎ 081 309 1111

Cumbersome and with few features, but can handle IMG files of any size – even colour ones.

STF Rating – 75%

IMG to Degas – Public Domain

Converts IMG files into screen sized PI3 pictures ready to be edited in an art program.

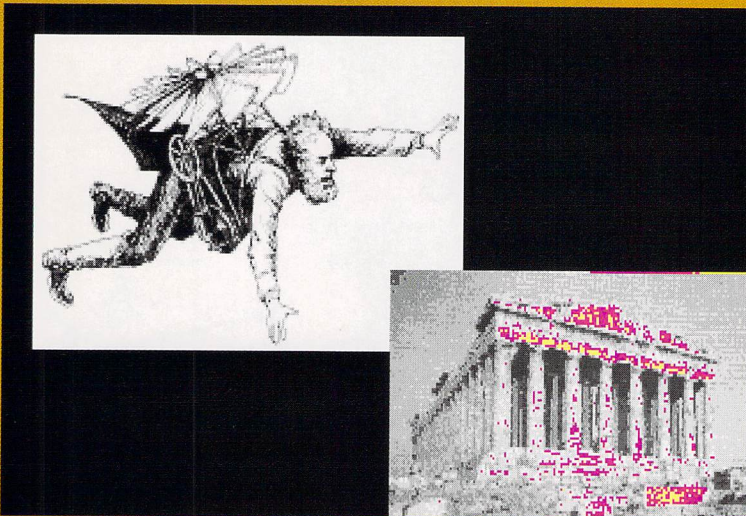
STF Rating – 70%

● For STF's comprehensive listing of Public Domain libraries, see page 44.

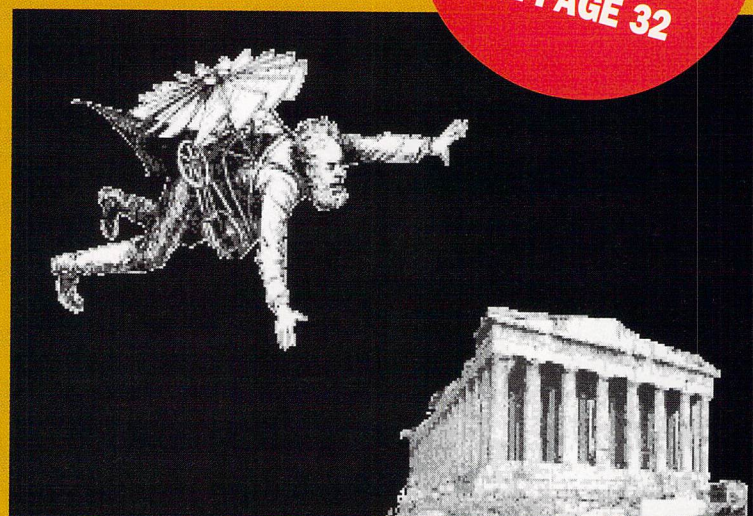
The beauty of retouching images you've imported into your ST is that you don't have to be able to draw a straight line – you can concentrate on

the composition itself. Manipulation's the name of the game.

**WIN!
A SCANNER
WORTH £100
SEE PAGE 32**



③ By a remarkable coincidence, here's one we prepared earlier – both scans resized and converted to greyscales, then pasted onto the same picture using an art package. The pictures use different palettes which clash, so there's some tidying-up to do. You only need one set of grey colours – save the other colours for details and a background.



④ The palette has been sorted out – both pictures now share the same set of greys. Some quick work with a black brush in your art program deals with the unwanted sections. You don't need an incredibly expensive art program – any package capable of importing *Degas* format images is adequate, and that's just about all of them. The scene is beginning to come together.

COLOUR ME GOOD AND BRIGHTEN A GREY DAY

Right then, you've got hold of this simply gorgeous piece of clip art that's right up your street – just the ticket for the title screen of your latest creation. The only trouble is, you need a pretty coloured picture and what you've got is only mono. Now what? If you have scanned the image yourself, then the scanner software almost certainly offers you

the option to save the scan as greyscales. If not, no worries – the process is still simple. There are plenty of picture converters in the Public Domain that enable you to convert high resolution mono screens into colour ones, using a dithering process to convert the monochrome dots into greyscales.



● The original piece of scanned art is saved as a *Degas* P13 high resolution screen. The picture uses different densities and patterns of dots to represent grey. If you're going to be converting pictures to colour, then it's best to scan pictures in dithered mode because it gives a better spread of colours.



● The Public Domain program *Picswitch* makes a jolly job of converting this beast to a low resolution picture, with the dot patterns changed to greys. Only five shades are needed, leaving you another ten colours with which to add details.



● Using a straightforward palette shift – most ST art packages can manage this easily – the grey colours are changed to an evil-looking green. The teeth and eyes are then touched-up in appropriate colours – an instant Editor!

JARGON DESTROYED – ARTSPEAK EXPLAINED

CLIP ART – Originally images clipped out from magazines and pasted onto new documents. On your ST, clip art is digital images ready to be used in DTP or graphics work. There are disks full of the stuff available from Public Domain libraries – see *STF*'s directory, page 44.

DITHERED MODE – Most scanners have a dithered mode which uses patterns of dots to represent shades of colour. Gives a more realistic result when scanning photographs. The only downside is slightly less detail.

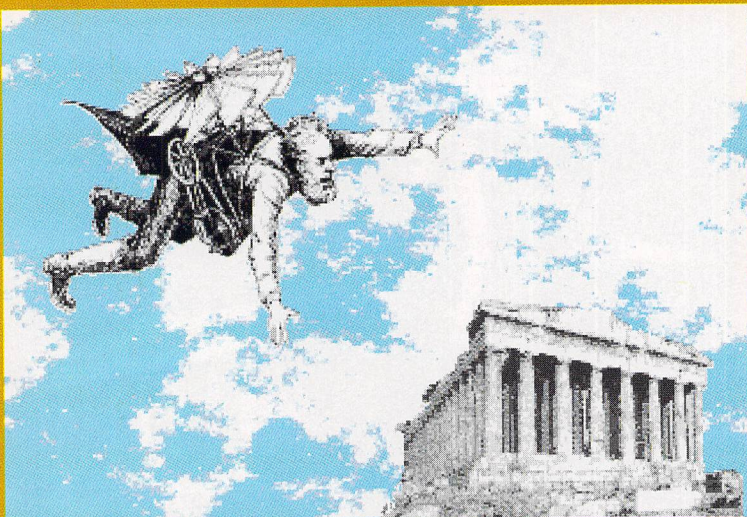
GREYSCALES – A mono picture is made up from two colours – black and white. A greyscale picture is made from shades of grey. On an STFM you have eight shades and on an STE 16 shades. Once a pic is converted into greyscales, you can start adding colour.

IMAGE PROCESSING – Applying mathematical algorithms to the bits and bytes that make up a picture, so you can sharpen up colours, soften the image and apply special effects such as "watercolour," outline and so on.

PALETTE – Your ST can display 16 colours in low resolution – this range of colours is your palette. Each of these colours is chosen from a range of possible colours – 512 on an STFM and 4,096 on an STE.

SCANNERS – Clever beasts that reflect light off a source picture into an array of photoelectric cells and convert the result into a digital picture. They come in many resolutions and sizes. Handheld ones start at about £100 and can handle 400 dots per inch. Any printed matter can be digitised.

THE ORIGINAL FLYING DOCTOR continued from page 125



⑤ The clouds were generated using the fractal program *Mountains* – which was yours on *ST FORMAT* Cover Disk 28 – and then the picture was pasted over the top – an instant background. Again at this stage, the palette needed adjusting, but the sky only adds three colours – the white is shared with the main pictures. That still leaves seven to play with.



⑥ Let's darken the distinguished doctor's suit and maybe add some flesh tones. No need to work out the complex details of the shading; it's already there in greys – just swap them for the new colours. Hey presto! A brand new composition in full colour. The whole process took 40 minutes and involved no heavy art-type skills, just a working knowledge of the basic functions of an ST art package or two.

5 GAME PACK



KWIK SNAX

"An ideal game for those who want to have fun"

Amiga Action

PRINCE OF THE YOLKFOLK

"Looks like the best Dizzy adventure yet"

Games-X

BUBBLE DIZZY

"A pure arcade game...Top fun"

Amiga Power

PANIC DIZZY

"A manic test of arcade reflexes"

David Darling

SPELLBOUND DIZZY

"The biggest Dizzy adventure yet"

Games-X

"Five top games smashing onto your screens bringing 100% fun and guaranteed playability! Drive yourself dizzy with three of Dizzy's action-packed arcade games and two brand-new arcade-adventures - the best two Dizzy games ever! All this fun, all this action, all this for £24.99! Five times the fun of any other games pack!" Richard Darling.

AMIGA ATARI ST £24.99

Write On

With *STF 33* you received an outstanding £50 word processor for only a single solitary pound extra! Tim Anderson gives you all the tips you need to make the most of this stunning document creator

Last month we introduced you to the basics of how to create professional-looking documents with *Write On*. Now you're up, running and confident with this excellent word processor, we show you how to tweak some of its best aspects to really get the most out of it.

CUSTOMISING WRITE ON

There are many ways of setting up *Write On* to match your personal style. These are the main techniques:

Page and paragraph layouts

Write On can hold numerous different layouts in memory, so that you can select the one you need for a particular document. You could have separate layouts for A4 paper, A5, envelopes, letters, essays, notices, and so on. In the same way, you can set up paragraph styles for body text, headings, sub-headings, quotations and the like. Once you've defined the layouts you're likely to need most often, use *Save Layout* (in the *Layout* menu) to store them to disk. The layout contains font information as well, so make sure you have the most commonly used fonts loaded into the *Type* menu. If you name your layout file *WRITE_ON.LAY*, and store it in the *WRITE_ON* directory, then these layouts are loaded automatically whenever you start *Write On*.

Customising with macros

Macros are immensely powerful, since virtually everything in *Write On* can be controlled from the keyboard. Here's three tips about how to use them:

First, if you define a macro on <Esc> and then save it to disk in *WRITE_ON.MAC* in the *WRITE_ON* folder, it auto-runs when you start up the program. Therefore, any option can be customised using this

facility. For example, you might prefer to have hyphenation turned off. That means selecting *Hyphenation* from the *Options* menu every time you use *Write On*. Not any more! Define a macro with the following keystrokes:

<Shift>-<Esc>	This starts the macro recording
<Esc>	This defines the key to trigger the macro
<Control>-<O>	This activates the <i>Options</i> menu
<H>	This activates the hyphenation dialog box
<Control>-<O>	This turns off hyphenation
<Return>	This exits the hyphenation dialog box
<Shift>-<Esc>	This ends the macro recording.

You can test the macro by pressing <Esc> <Esc>. You can then see the hyphenation dialog box flash onto the screen while the macro does its work. Now use *Save Macro* in the *Options* menu to store the macro to disk.

Remember: you must call the macro set *WRITE_ON.MAC* and store it in the *WRITE_ON* folder, or the auto-run facility does not work.

Macros on Function Keys

Here's the second tip about macros. When you define a function key as a macro, it works slightly differently. Instead of requiring you to press <Esc> and then the particular key, you can activate the macro by pressing the function key alone. So it makes sense to keep your most commonly used macros on the function keys.

One good method is to use function keys to activate paragraph layouts. For example, you could use F1 for a layout called "body text," F2 for "heading,"



F3 for "sub-heading." When you need a new layout, simply press the relevant function key.

Macros for often-used text

Probably one of the first things you did with *Write On* was to set up a macro to type out your address, ready to start a letter. Did you realise that *Write On* can insert today's date as well? Of course, you need to remember to set the system date correctly for this to work or to have a battery-backed clock. To insert the date, use this key combination for the third hint:

<Control>-<D> <D> Prints out the date as: 2/3/1992

or alternatively,

<Control>-<D> <M> Prints out the date as: March 2, 1992

Customising with Save Preferences

In the same directory as *WRITE_ON.PRg*, there's a file called *WRITE_ON.INF*. This contains the information which is set in the *Preferences* dialog box in the *Options* menu. A very useful option is the auto-save facility, which saves your work to disk after a set period of time while you work. The "path to external files" is where you can identify the folder where *Write On* finds screen fonts, printer drivers, macro and layout files. Try to avoid getting these mixed up in the same folder as the one you use for *Write On* documents.

Hard disk users beware: if you move *Write On* from one directory to another, you may find the program fails to start. The reason is the *WRITE_ON.INF* files contain invalid path names. If you delete it, *Write On* starts correctly; then you can make a new one with *Save Preferences*.

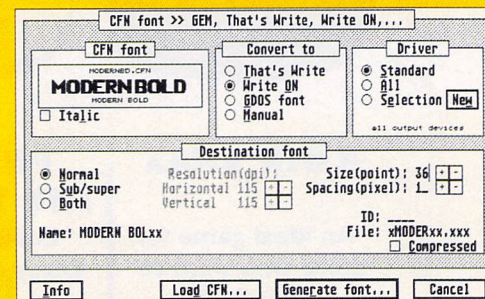
C-FONT – THE EASY WAY TO GET FONTS INTO WRITE ON

Creating or adapting fonts for *Write On* can be fiddly, to say the least. Fortunately, Compo have released a utility called *C-Font* – see page 144 to order it – to convert *Calamus* fonts into *Write On* format automatically. Best of all, it converts them to whatever size you require, bearing in mind that large GEM fonts take up acres of disk space. *Calamus* fonts are well established among the ST's professional users, and there are plenty of good fonts around both in the Public Domain and commercially.

C-Font is very simple to use. First, *C-Font* inspects your *Write On* setup to see what printer driver you are using. Then, you

load a *Calamus* font (with a .CFN extender) into *C-Font*, and a picture showing the font style is normally shown. Then, choose the point size you want, and click on "Generate Font." *C-Font* creates the fonts in the correct folders without further instructions.

There are also options to create .SML fonts for superscripts and subscripts. Italic *Calamus* fonts can be converted into .IT and .SIT files. *C-Font* works as a Desk Accessory, although not from within *Write On* itself – this problem will be fixed in future releases of *Write On*. The combination of *C-Font* and *Write On* is unbeatable – an outline font word processor at a budget price.



● *C-Font* is a Desk Accessory – but it doesn't work from within *Write On*! Here, the *Calamus* font *Modern Bold* has been loaded ready for converting.

KEYBOARD SHORTCUTS

Not all *Write On*'s keyboard shortcuts can be discovered from looking through the menus – some, like the one for inserting today's date mentioned earlier, are extra features not available any other way. Here are a few more:

- <Shift>-<Delete> Delete word
- <Control>-<Delete> Delete line
- <Shift>-<8> Move up one page or down with down arrow
- <Control>-<8> Move to beginning of document or end with down arrow
- <Control>-<D> <W> Move cursor to other window
- <Control>-<Space> Types hard space (space that is not adjusted or broken over a line)
- <Control>-<D> <T> Inserts the current time at the cursor position
- <Shift>-<Shift> Interrupts printing process (both shift keys together)

PRINTING ON BOTH SIDES OF THE PAPER

Unfortunately, *Write On* can't turn the paper over for you! But several special features make it easy to print double-sided documents, saving mountains of paper in the process. The technique is as follows:

1 An attractive touch is to have different headers and footers on left or right hand sheets. For example, it's good to keep the page number on the outside edge of the page – that means left-aligned on left-hand sheets, and right-aligned on right-hand sheets (as they are here). In order to achieve this effect, open the Page Layout dialog box. Use the Header and Footer buttons to define the header and footer for the right-hand (odd numbered) pages. Then, use Left Header and Left Footer to define them for left-hand (even numbered) pages.

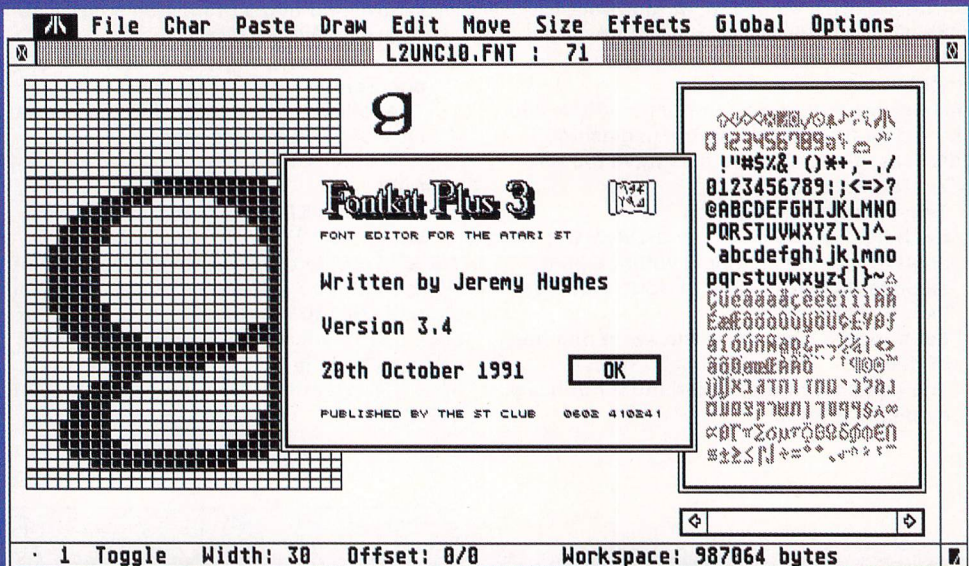
2 When it comes to print, set up the Print dialog box as follows:

- Odd pages
- Double-sided
- Flip margins

Now click on OK to print the odd numbered pages. The Flip Margins option creates a balanced appearance by swapping round right and left margin widths on left-hand pages.

3 Take the printed sheets, and position them in your printer so they are to be printed in ascending order, preferably the right way up and on the blank side! Go back to the Print dialog box, and choose the same options as before, except that Even Pages is now selected. Click on OK – and you can produce a perfect double-sided document.

FONTS AND WRITE ON – ALL YOU NEED TO KNOW



Fontkit Plus 3 – an essential utility for would-be *Write On* font hacks.

Write On is a multi-font word processor. But the fonts supplied, while useful, are hardly exciting. How can you get new fonts into *Write On*? Be warned – the following section is somewhat technical. If you want to know the easy way, skip straight to the section about *C-Font* below!

First, a bit of background. *Write On* uses three main kinds of font – there is a fourth – true downloaded fonts – but these are not often used. The first kind is the screen font. These fonts have the prefix "S..." and are stored in the WRITE_ON folder. They are standard GEM fonts, with a resolution of 90 x 108 dpi, whether for mono or colour monitors. However, there are some special requirements: for example, ASCII characters 4 to 32 must be defined, and the space character (32) must have a width greater than zero. Screen fonts work the same way, no matter which type of font is used for output. Accurate screen fonts are important, since *Write On* uses them to control line spacing and justification. When you load a font into *Write On*, it is the screen font that you select – attempting to select other fonts does not succeed.

If you look at the file names of *Write On* fonts, you can see that not all of them have the .FNT extender. This is because each font slot in *Write On* can actually control four fonts – giving a true total of 80 fonts rather than 20! A complete font family is as follows:

- .FNT the plain, or "Roman" font
- .IT the italic font
- .SML the super- or sub-script font
- .SIT the super- or sub-script italic font

You don't need all of these for a font to work! Only the

.FNT font is essential. The others, however, are valuable enhancements – having a true italic version is particularly useful.

After the screen fonts come the printer fonts. One kind of printer font controls the fonts that are stored in your printer's ROM. Have a look at your printer manual, and see how many fonts are built-in or obtainable on ROM cartridges. *Write On* is one of the few word processors that can handle all of them when suitably configured.

To use these printer fonts, *Write On* uses a special file called a "pseudo font." Pseudo fonts have a name beginning "X..." and are found in the printer font folder nested within the WRITE_ON folder. These files contain the instructions necessary to turn the font on and off, along with width information to enable correct justification of proportional type.

Write On as supplied may not cover all the possible fonts available in your printer. Can you obtain new pseudo fonts? Compo (☎ 0480 891819) may have a set of fonts designed for your printer – alternatively, you can compile your own by using the program WO_HELP. A disk can be purchased from Compo which contains commented examples of how it is done.

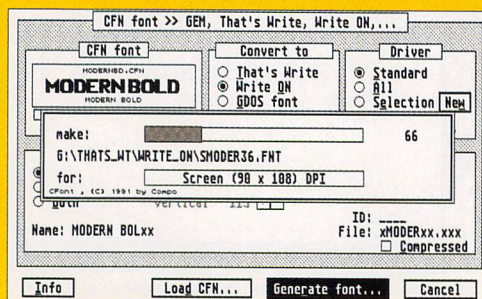
Finally, *Write On* handles GEM printer fonts. These have the same special requirements as the screen fonts, as mentioned above. Also, the resolution of the font must match the printer driver you are using. A quick way to find out is to look in the printer font folder nested within the WRITE_ON folder, and to see what the prefixes are. These are the standard prefixes:

- E 120 x 216 dpi (9 pin)
- F 240 x 216 dpi (high resolution 9 pin)
- O 180 x 180 dpi (low resolution 24 pin)
- P 180 x 360 dpi (medium resolution 24 pin)
- Q 360 x 360 dpi (high resolution 24 pin)
- L 300 x 300 dpi (laser or HP inkjet)

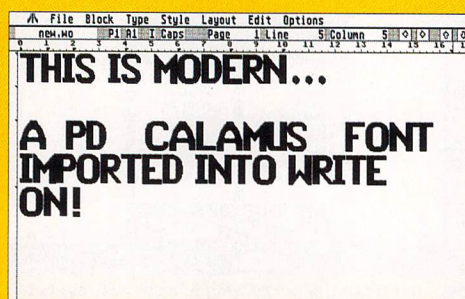
To install a new GEM font into *Write On*, you therefore need:

1. A screen font at 90 x 108 dpi, in the WRITE_ON folder.
2. A matching printer font at the appropriate resolution for your printer driver, in the printer folder nested within WRITE_ON.

You need a further pair of fonts for each of the four varieties, .FNT, .IT, .SML and .SIT, if you choose to install them all. If you decide to try converting GEM fonts for use in *Write On*, you are strongly advised to get hold of the *Fontkit Plus 3* utility (£19.95 – from the ST Club, ☎ 0602 410241). The *Fontkit* manual contains detailed information on creating *Write On* fonts.



• *C-Font* at work – creating the necessary fonts for *Write On*. Conveniently, they're placed into the correct folders without you having to lift another finger.



• This is how it all turns out once it's been imported into *Write On* – Calamus' Modern Bold in use at the size you determine.

MAIL MERGE IN WRITE ON

Write On has a powerful mail merge facility. If you run a club, a business, or just want to irritate your friends by sending them all the same letter, this is the feature you can't do without.

Mail merging has two components. First, you need a data file containing the names and addresses. *Write On* data files have the following format:

1. They are plain ASCII files
2. Each field is separated by a comma. If you need to include a comma within a field, enclose the whole field in double quotes, like "5, Ballard Way."
3. Each record must have the same number of fields.
4. The last field in the record must not have a comma after it.

5. The record must end with a carriage return, and may not include a carriage return anywhere else.
6. The maximum length of a record is 80 characters.
The following is a valid data file – note carefully the lack of spaces:
A N Other,4 Park Way,Anytown,Hants,4BG 8AW
B O Next,16Terrace Gardens,Oldtown, Lancs,7TD 8YW

You can create the data file by typing it into *Write On*. If you do this, save it as ASCII and choose "No" to the question, "CR/LF after each line?" Alternatively, many databases can save files in this format. The file must have the extender .SDF – for example, MAIL-ING.SDF.

When the data file is ready, you can prepare your document. Whenever you want to insert a field into the document, type in the number of the field within hash symbols, like A N Other. In the example above, the first field is the name, so the letter might begin:

Dear #1#,

There is a further small feature. If the number is followed by a plus sign, like #2+#, an additional space is inserted if there is data in the field, but not if it is empty.

To perform the mail merge, load the document into *Write On*. Now choose mail merge from the File menu. You are asked if you want to print a document for all the names, or to see a preview on screen for each record, before deciding. And that's all there is to it – *Write On* does the rest.

Mail merge

F:\STF_CDS\33\WRITE_ON*. *

	A	B	C	D	E
1	WRITE_ON	03/11/91			
2	DEMO1 .WO	02/11/92			
3	WRITE_ON.PRG	04/24/91			

File: DEMO1 .WO

OK Cancel

Print?

Yes No Cancel

The BalloonWorks Hot Air Company
0, Nothinginit, Vacanton

SPECIAL OFFER - THIS MONTH ONLY

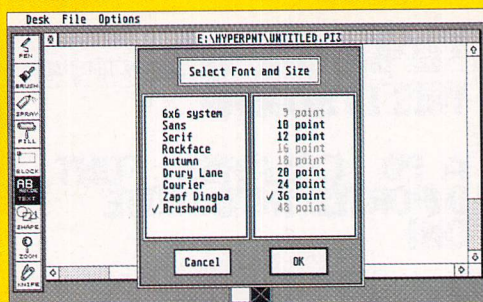
I am writing to tell you about a very special opportunity for you and your company to benefit from a remarkable new invention. Tests have shown that small amount of BalloonWorks patent Hot Air, released into a factory or office, dramatically increase the productivity off all those working there.

● The first thing to do when mail merging is to select the SDF file you want. What's an SDF file? It's the list of data you create to fill the gaps in the standard letter. These need to follow the rules – laid out in the text above – for SDF files, otherwise you get some extremely strange results.

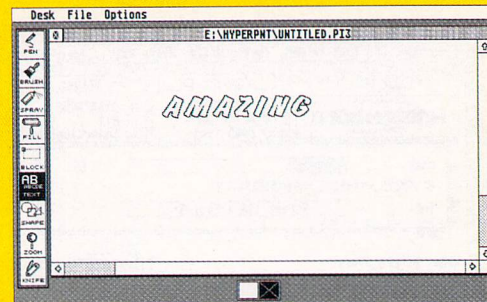
● After *Write On* was given away with *ST FORMAT 33*, the nation's postal service was swamped with persuasive letters of dubious integrity...

USING IMG FILES FOR FANCY HEADINGS

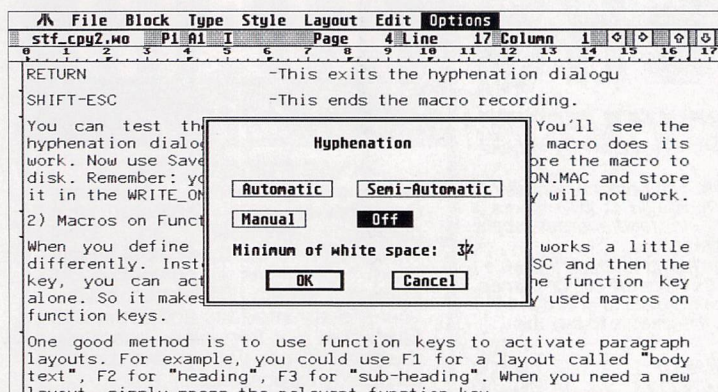
If you need an exotic headline in your document, why not create it as an IMG graphic in an art program, and import it into *Write On*? It's very easy to centre IMG files in *Write On*, since you can drag them left or right with the mouse. Best results can be obtained by creating the graphic at a size and resolution that looks good at the resolution of your printer. You can scale graphics in *Write On*, but if a low resolution graphic is enlarged too much, you get a jagged picture on printing. A little experimentation soon gives you an idea of what is needed.



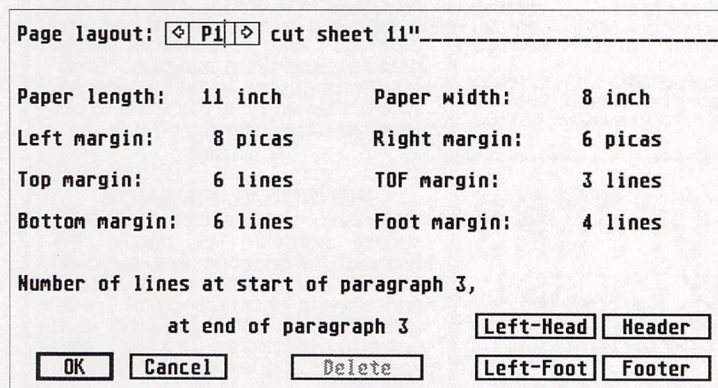
1 The first step in creating a large heading is to choose a font within *HyperPaint*. Brushwood is part of the set that comes with *Timeworks DTP*.



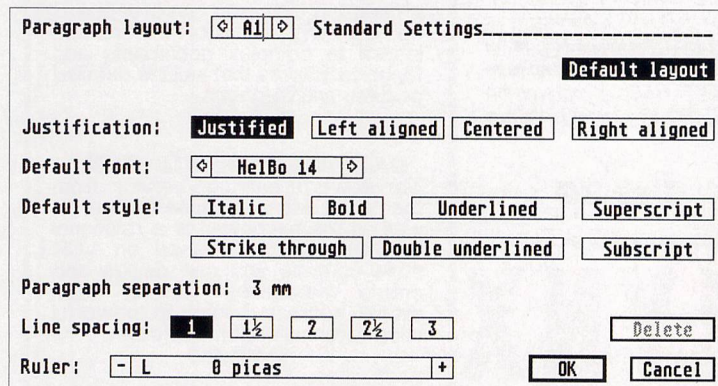
2 Even a 36 point font is too small for a decent headline. So the next step is to use *HyperPaint*'s Block Rescale to enlarge it...



● Do you want hyphenation to be turned off automatically instead of having to select it each time from the Options menu? It's easy just set up a macro to do it for you every time you run Write On.

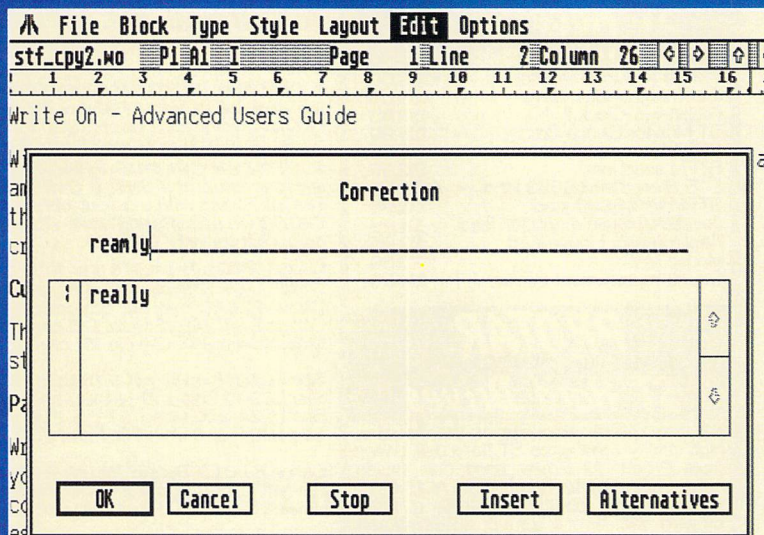


● Use Page and Paragraph layouts to set up Write On to your own preferences. The Page Layout dialog box enables you to vary the units of measurement – but remember, in Write On exactly 2.5 centimetres equal one inch.



● The paragraph layout feature is the most powerful thing about this word processor, enabling you to specify things like alignment – left, right, centred or justified – font and type style, tab and margin settings.

DO YOU NEED THAT'S WRITE?



paragraph styles for body text, headings, subheadings, quotations etc. Once you've defined the layouts you'll need most often, use SAVE LAYOUT (in the LAYOUT menu) to store them to disk. The layout contains font information as well, so make sure you have the most

● That's Write is the professional version of Write On. It includes a comprehensive spelling dictionary, as well as footnotes, multi-column printing, and index/contents generation.

If Write On is so capable, then what can the professional version of it – That's Write – do in addition? Here are the main extra features in That's Write:

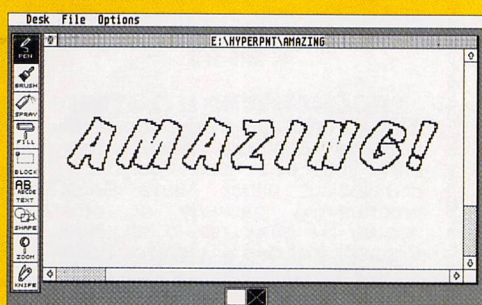
- Paragraph Levels, enabling you to expand and collapse whole sections of your document.
- Index and Contents generation.
- Multi-column printing.
- Footnotes.
- Spell checking.

If you are on a tight budget, or

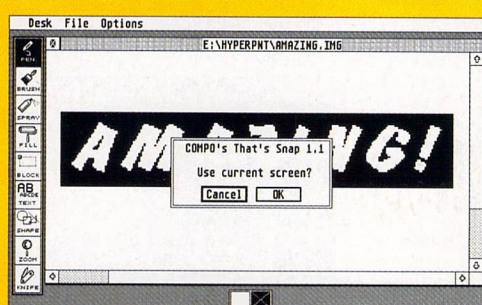
most of your work is with short documents, Write On is more than adequate. If you are doing academic work, software manuals, or other long documents, That's Write is a worthwhile upgrade. In operation, the two programs are virtually identical, so there is very little learning to be done in transferring from one to the other. That's Write reads Write On files without any problem – unfortunately, Write On cannot import That's Write documents directly.

ROLL UP! ROLL UP!

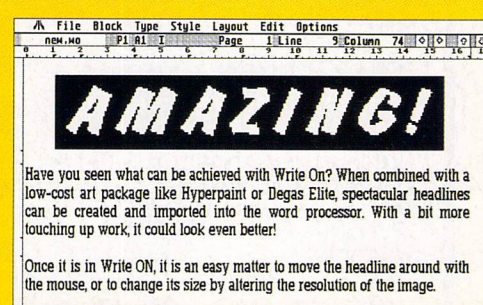
To help you get the most out of Write On, Compo Software and STF have got together to bring you more goodies – there's the C-Font utility to convert Calamus fonts into Write On format, the complete manual, printer drivers, internal printer fonts and lots more. Just turn to page 144 to get yours now! Next month we're also going to be selling the professional version of Write On – That's Write – in STF, so don't miss it – out on Thursday 11 May.



3 Once it's a good size, try printing it in white out of a black background. Draw a box round the heading, and fill in the background with black.



4 Using the That's Snap Desk Accessory, you are able to save the resulting headline to disk as a cropped IMG graphic.



5 The final result is an eye-catching headline that's suitable for a small poster. Who needs desktop publishing anyway?

ATARI

ST Accessories

SM124 12" Mono Monitor	£139.00
SM144 14" Mono Monitor	£139.00
External 3.5" Disk Drive	£59.00
Forget-Me-Clock II	£19.95
ST Monitor Switch Box	£15.99
STE Stereo scart lead	£12.99
STFM scart lead	£12.99
STE Stereo MKII 8833 lead	£12.99
STFM MKII 8833 lead	£12.99
Joystick/Mouse extension lead	£4.99
Replacement Mouse lead	£3.95
Mouse Mat	£3.50
Squick replacement mouse	£14.99

PROTAR

ST Hard Drives

We are official stockists of the latest in high quality / low price ST hard disk drives from Protar. All Protar hard disk drives come with a full 12 month REPLACEMENT warranty (no lengthy repairs!), a DMA through port, device number switching and superb disk management software.

* ST FORMAT GOLD AWARD WINNER *

* RATED AS "EXCELLENT" BY ST USER MAGAZINE *

* STE COMPATIBLE *

Progate 20Mb Hard Disk	£275.00
Progate 30Mb Hard Disk	£309.00
Progate 40Mb Hard Disk	£335.00
Progate 40Mb with Cache	£420.00
Progate 44Mb Removable	£595.00
Progate 60Mb Tape Streamer	£565.00
Progate 80Mb Hard Disk	£420.00
Progate 150Mb Tape Streamer	£775.00
Progate 160Mb with Cache	£899.00
Progate 440Mb with Cache	£1475.00

STE Ram Kits

DIY 1 - 512k upgrade	CALL
DIY 2 - 2mb upgrade	CALL
DIY 4 - 4mb upgrade	CALL

All STE Ram Kits come with instructions and DO NOT require soldering in most machines.

COLOUR MONITORS

PROTAR VISTO C14M

- * Colour monitor
- * 14" screen
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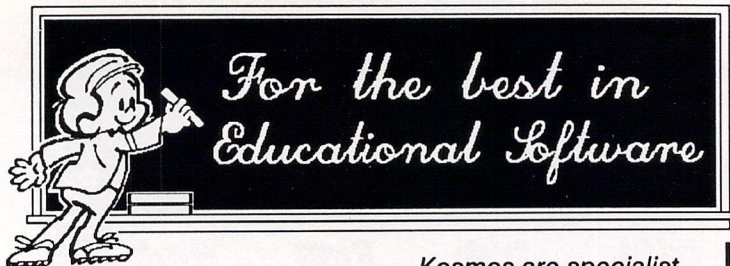
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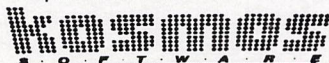
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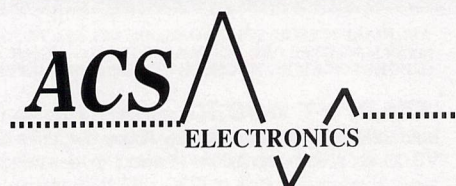
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Tots and teens

Don't let your toddlers be bewildered by computers on their first day at school – introduce them slowly with these ST programs. There's also help for teenagers baffled by manuals and a couple of invaluable utilities for children with sight problems. Terry Freedman guides you through

Quickstart Guides

AGE RANGE: 13 AND ABOVE

PRICE: £3.00 AND £5.00 EACH

FROM: THE SANDON SCHOOL

CONTACT: 0245 73611

If your teenagers – or you – are having difficulties understanding how to make the most of some ST applications, look no further! Dave Waller, a teacher in Essex, has produced these "Quickstart Guides" for a whole range of applications – databases *Superbase Personal* and *Professional*, *LDW Power* and *K-Graph 3* spreadsheets, word processor *1st Word Plus*, *Easydraw* art package and top DTP

package *Calamus*. What's this got to do with education? Well, you may not know this, but there are ways in which you can get certificates for learning word processing and other "serious" applications – and after all, if you've got the skills, flaunt them! These Quickstart Guides take you through the basics of each application and get you to the standard required to pass the courses.

All of them follow a similar pattern. First, there's the lurid front cover written in 12 different fonts and 19 different styles. Once you've recovered from that, they take you step-by-step through the process of creating a document, database or whatever.

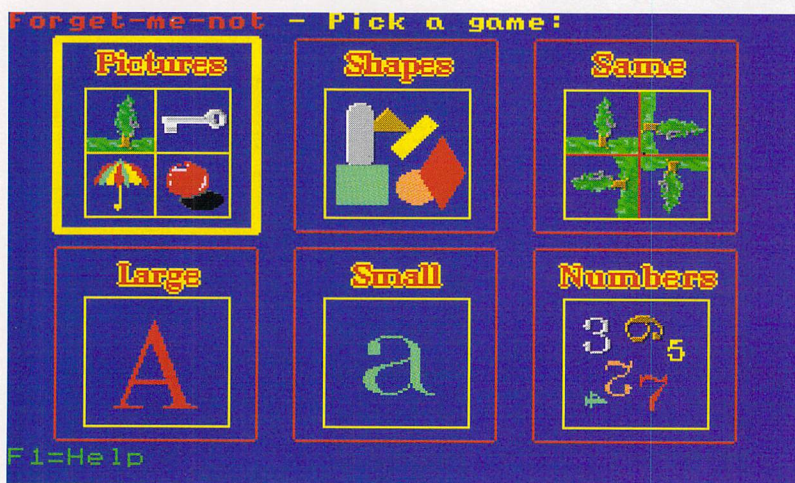
The manuals are clear, with a new page for each new point, and lots of pictures so you can see exactly what the screen is supposed to look like at



● **ST FORMAT's** education expert is Terry Freedman – he's the Head of Information Technology at William de Ferrers School in Essex, and also writes for the Times Educational Supplement.

any given point. Perhaps the most original thing about these guides is the fact that you can actually understand them! With an average length of 50 to 60 pages, these guides don't pretend to cover everything. But they get you started within minutes of opening the package, and at £3.00 or £5.00 each, they're pretty good value-for-money.

PRESENTATION	8
EASE OF USE	10
LONG TERM INTEREST	5
VALUE FOR MONEY	8
EDUCATIONAL VALUE	10
OVERALL	87%



● **Decisions, decisions!** Choosing a variation is part of the fun in *Mix and Match with Maggie*.

Mix and Match with Maggie

AGE RANGE: UNDER 5s

MACHINE: ALL COLOUR STs

PRICE: £24.99

FROM: SCETLANDER

CONTACT: 041 357 1659

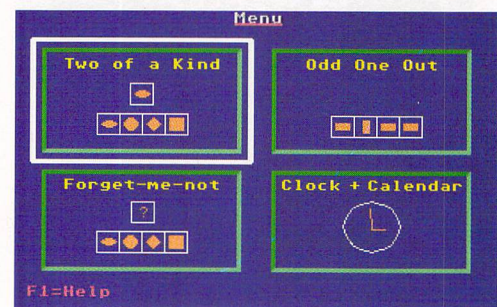
This shape recognition package for pre-schoolers, like other Scetlander software, has a friendly feel to it. The child's section consists of three games: *Two of a Kind*, *Odd One Out* and *Forget-Me-Not*. Within each of these games there are six variations on the theme – you can use, for example, upper case or lower case letters, or numbers.

The help for parents is impressive. Press <Control>-T at the start and you get a wide range of options, so you can set the timing of the tests, whether the results are recorded or not, and whether you get a printout of the results themselves, so you

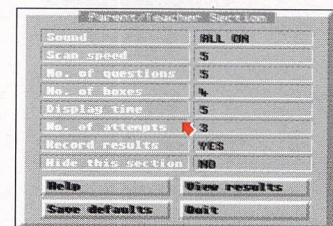
can pinpoint exactly where your children are having problems – if they are.

The program is very easy to use and visually striking, although the writing is on the small side. It is likely to have a fairly instant appeal to this age group, but can it maintain interest in the long term? Given the number of games and variations (18 in all) and the fact that the parent can make changes, it probably can, but only up to a point. Sooner or later, you'll cover all the activities. However, you can buy an extra program (£24.95) that enables you to edit *Mix and Match with Maggie* to extend the variety.

There are a couple of disappointing aspects. The manual is good, but the start-up guide is misleading when it tells you to read the text file on the disk, since the disk is auto-booting. This could be confusing for newcomers to the ST. The program asks you for your name at the beginning, but the only use it makes of it is in the Records section. It would have been friendlier if your ST addressed you by name! Also, more could have been made of the sound facilities: at the moment there is a half-hearted attempt to



● In *Mix 'n' Match with Maggie*, you can make your choice from three different types of matching game or the clock/calendar.



● **Adults also** get plenty of choice – this could keep you busier than the children!

use it because it's there. Finally, it isn't possible to quit from the program elegantly – you have to switch off your ST or reset it. Still, these are minor quibbles. This is a well put-together package that's almost worth buying for the parental help alone.

Contents: One double-sided disk; 12 page manual; start-up guide; button badge

PRESENTATION	5
EASE OF USE	7
LONG TERM INTEREST	9
VALUE FOR MONEY	9
EDUCATIONAL VALUE	7
OVERALL	75%

Picture Book

AGE RANGE: 2-5

MACHINE: ALL COLOUR STs

PRICE: £19.95

FROM: TRIPLE R

CONTACT: 0742 769950

Picture Book is a suite of four programs – Alphabet Book, Spell It!, Count 'Em! and Snap! – with the emphasis on exploration. Aimed at the pre-school age group, it attempts to fascinate kids and encourage them to be eager to learn more by making sure the educational aspects never get too serious.

Alphabet Book is a great little program – we had to tear ourselves away from it! You press a letter, and a picture of something whose name begins with that letter appears. For example, press “A” and an apple appears on the screen. What makes this program so good isn't just the fact that the graphics and sound effects are good, but that all the items and the graphics illustrating them are within the child's own experience.

Spell It! is to do with – amazingly – spelling. This is okay, but nothing much to write home about – you're shown a word, then you spell it. On Level One, the word remains on the screen, while on Level Two

it doesn't. You can't change the words in the word list, and you can't keep records of your progress. If spelling's what you're interested in, check out the software we reviewed in issue 28 – and if you don't have a copy turn to the STF back issue service on page 62.

Count 'Em! is all about – um, counting. You're shown pictures of objects on the screen and asked to say how many there are of them. There are three levels – showing up to three, six and nine objects. Again, this is quite good, but if you're interested in maths edsoft, take a look at the programs we tried out back in issue 29.

Snap! is a matching game for up to three players, and there are three versions – matching pictures to pictures, pictures to words and pictures to letters. This is quite entertaining and helps youngsters to build the connections between, say, the word “apple” and the object “apple.” But check out Mix 'n' Match on page 135.

While the basic concept of each of these programs can be found elsewhere – often done better – the entirety of this package is greater than the sum of its parts. It's entertaining, and you could, at least with the older children, set the program up and let them get on with it. They'd have fun and learn quite a lot, too.

A particularly good feature is the inclusion of keyboard overlays with lower case letters. Kids in school

learn to read with lower case letters, but keyboards use capital letters. Well, it may be obvious to you and me that “a” is the same as “A,” but to the average three year old the whole business is like the theory of relativity – only not as easy. With these overlays, the problem is solved. One is in the usual “QWERTY” format, while the other is in an alphabetical format – that is, “ABC...” You can configure the keyboard either way from within the program. Trouble is, if you start learning the keyboard set out as “ABC...” instead of the universal “QWERTY,” there's going to be quite a lot of unlearning to do one day! Better stick to QWERTY, eh?

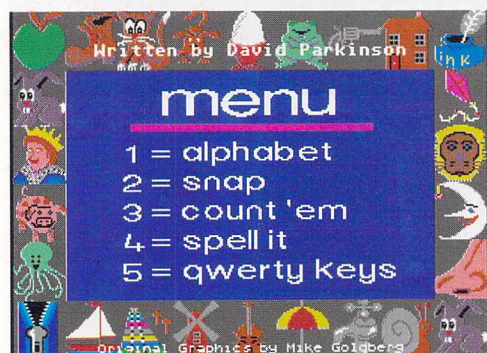
Another helpful touch is the large size of the letters on the screen, so you don't have to strain your eyes. In fact, the whole appearance of these programs is bold, colourful and bright.

A couple of niggles, though – the synthesised voice is pretty dreadful, though there is an option to turn it off. One other niggle is that you can't change the program you're playing unless you reset your ST and start again. Pity – it makes the program clumsy and somehow gives it an unfinished feel.

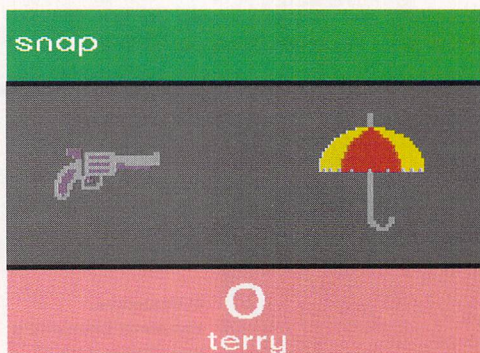
More seriously, you can't make any fundamental changes, like putting new words into the spelling game, or new sums into the counting game, so long-term interest is likely to be on the low side.

But do we recommend it? Put it this way: if you want to get your child interested in learning more about words and numbers, you could do far worse than buy this package. But if you want more detail on any one aspect look at the Scetlander range, and if you want more variety check out the Fun School range of programs.

Contents: One single-sided disk; manual; two keyboard overlays



● Big 'n' bold text plus interesting and colourful graphics make **Picture Book** easy to use.



● Do the two objects match? In this ST game of **Snap!** you can compete with up to two other people.

PRESENTATION	10
EASE OF USE	6
LONG TERM INTEREST	5
VALUE FOR MONEY	8
EDUCATIONAL VALUE	8
OVERALL	68%

SIGHTS FOR POOR EYES?

All this talk of mixing and matching seems to assume you can see what's on the screen! But what if you can't?

In schools, if kids in the class can't see too well, there's a tried and tested, scientifically backed-up method of ensuring that they can read what's on the blackboard – you sit 'em at the front! Now you can do the equivalent on your ST with the help of a few handy programs to make things on the screen look bigger.

First, there's **DCR_TMAC** from the South West PDL (PO Box 562, Wimbourne, Dorset BH21 2YD). You can install this by

sticking it into an AUTO folder – simply a folder called AUTO that's not in any folders itself. Whenever you want to get close up, just hit <Alternate>-<right Shift>-<Help> – easy if you're a concert pianist – and the screen is enlarged a huge eight times! It doesn't work with every program, but the disk is only £3.00 and includes plenty of other goodies, so you can't go far wrong.

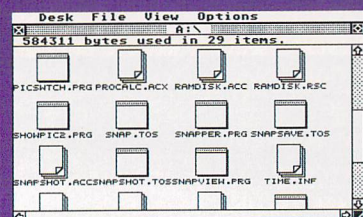
On the same lines, there's a utility program called **Mortimer** which you can get from Kuma (☎ 0734 844335). **Mortimer** stays in the background until you call it up with a special key combination,

and contains loads of utilities such as a screenshot device, a picture viewer, RAM-disk and so on. It also has a magnifier. It isn't as powerful as **DCR_TMAC**, but it does seem to work with more programs. **Mortimer** costs £32.50.

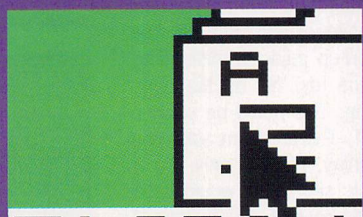
Finally, for word processing there's **Magniwriter** – also from the South West Software Library. Those of you who got going with **ST Writer Elite**, which was on issue 27's Cover Disk, are instantly going to recognise **Magniwriter** as a bigger version of that! Even if your eyesight is okay, **Magniwriter** enables you to carry on word

processing without your eyes falling out. This is £3.00 too, including postage.

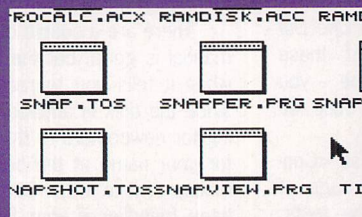
Alternatively, if you're working with blind people you may want to teach yourself Braille. The ST Club (☎ 0602 410241) do a Braille testing program called **Braille** (disk number EDU 21). You tell it how many questions you want to answer and it tests you on a random selection of Braille signs. If you get too many wrong it tells you to do some revision! Not the most sophisticated program, but at only £1.45 it's worth considering, especially since the disk contains other programs too.



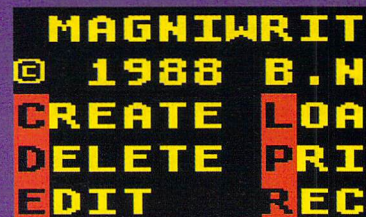
● Before **DCR_TMAC**: now you can just see it...



● After **DCR_TMAC**: Now you see it even better.



● **Mortimer** gives you a compromise between normal and gigantic.



● With **Magniwriter**, word processing is possible even if your eyesight's bad.

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TOTAL!

April 1992
Issue 4
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We visit Super Mario World on the Super NES!

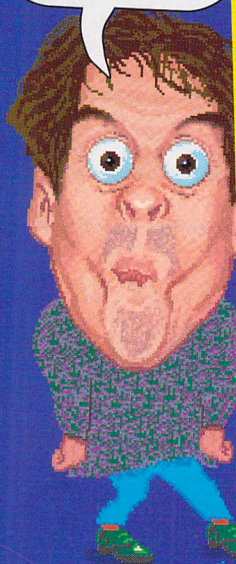
It's a mag of three halves - NES, Game Boy and Super NES. Miss this and you'll be as sick as a parrot!

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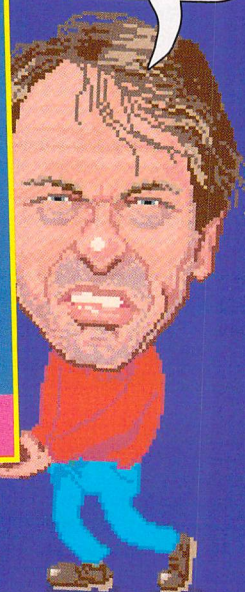
- GAME BOY: **WWF!**
- GAME BOY: **Bart!**
- CHIP 'N DALE!
- YALTO: **SHADOW!**
- Blue Shadow!

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Uuunggh!
S'on me foot... IT'S
ON MY FLIPPIN'
FOOT! Don't just
read this you
flongy, **HELP ME!**



Oy! Thicky, you
twnok, pick up your
end! Somebody's
looking at us and
the gimpin' cover
isn't straight!



... Make sure you also own a copy of TOTAL! Issue four is out NOW!

Page makers

If you need a more complex layout to your pages than a word processor can provide, you need desktop publishing. Simon Williams holds the front page and points to interesting parts of it

Desktop publishing (DTP) packages take document layout one step further than word processors. If you want to put together pages with fairly complex designs, perhaps in several columns with inset pictures, large headlines or text at odd angles, DTP programs can do the job. Equally at home with text and graphics, a DTP package is the ideal tool to produce flyers, newsletters, magazines – even whole books. The main difference between the word processor and the DTP program is the latter's concentration on the look of the page. Although several ST programs, like *Calligrapher* (£139 Working Title ☎ 0865 883233) and *Word-Flair* (£79.95 Hisoft ☎ 0525 718181), can perform some of the functions of each type of program, control of type and page layout is still tighter and more flexible in a true desktop publishing package.

As with a word processor, you don't have to pay the earth for desktop publishing. *Easy Text Plus* and the soon-to-be-released *Easy Text Professional* are available from zzSoft (☎ 0254 672965), starting at a mere £25. Although a little more cumbersome to use than the commercial packages, *Easy Text Plus* can still produce very presentable pages.

The screen of a DTP program represents a blank page of paper from your document. If you were designing the page on paper, you would draw up the various boxes to hold text and graphics and perhaps add lines to separate some parts of the page from others. This is exactly what you do with DTP.

Most programs, such as *Timeworks Publisher* 2 (£129.25 Electric Distribution ☎ 0480 496666), work

with a system of rectangular frames which you can place and stretch on the page as you would with the Rectangle tool in an art program. The difference is that the frame need only be used as a box into which you place text or an image. Frames in DTP packages can be resized which causes text to reflow and graphics to be rescaled.

So, how do you get text and graphics into these frames? There are two ways to add text, largely dependent on the amount you need to add. For small pieces, such as headlines and introductions, you can enter the text directly by typing it into a frame. Many DTP programs have built-in text editing functions. These are not normally as comprehensive as in a word processor, but can still be used to cut and paste text from one place to another. Some packages, such as *Calamus SL* (£570 Halco ☎ 0734 441525), have a separate text editor which is much quicker to use than typing straight onto the page.

For longer passages of text, you're better off using your DTP program in conjunction with a word processor. Prepare the bulk of your text, called "body copy," in the word processor. Run the program, select a frame within the page and call up the text file by name – several word processor file formats are usually supported. If you use a supported word processor, effects like italic and bold text can be carried across within the imported file.

If the text you're importing is longer than a single page, you can link text frames on one page to those on another in a chain. If you then edit the text, it automatically reflows through the chain of frames.

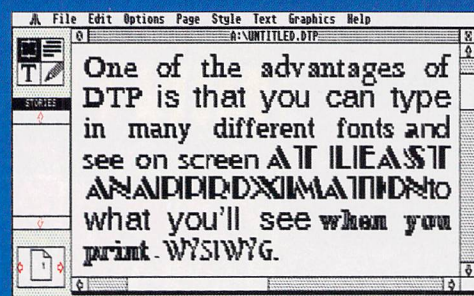
Unlike most word processors, text in a DTP program shows on-screen in the font you've chosen for it. A Times font shows as Times, and Helvetica shows as Helvetica – this is known as WYSIWYG (What You See Is What You Get). Although the fonts look a little jagged because of the comparatively low resolution of the screen, WYSIWYG gives a much better idea of what the printed page is to look like. You can also view a page at several magnifications to get an idea of the overall layout before you print.

When it comes to graphics, most people opt to import images from other sources. The facilities for drawing in DTP programs are usually fairly primitive and are meant for little more than tinted boxes and

dividing lines. Graphics are imported in much the same way as text. As long as the images you want are in a format supported by the DTP program, you can pull them straight into frames on the page. All four major packages – *Timeworks Publisher*

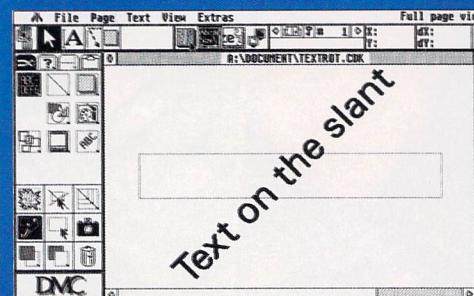


GETTING TO KNOW



1 Fonts can be one of the most difficult things to get to grips with in desktop publishing. In their simplest form, bitmapped fonts – as used by *Timeworks Publisher* – are patterns of dots representing all the characters in the GEM character set. With this type of font, you have to keep copies of every typeface in all the sizes you need.

Outline fonts, used by *Calamus* and *Fleet Street Publisher*, are stored as outlines of the shapes of the character. The program scales the outlines mathematically to whatever size you specify. You only have to keep one copy of each outline on disk.



5 Rotation of text can be very useful for special effects and in tables and graphs. In *Calamus*, which uses its own set of scalable fonts, rotation is easy and text still looks very good on screen and when printed out.

Calamus demands different frame types for each use – like text, bitmap graphics, vector graphics and rotated text. To create rotated text, select the rotated text frame icon – bottom right of the top group in the toolbox – stretch a frame and type in your text. You then select the special effects toolbox, type in an angle and apply it to the frame.

IN THE PICTURE

There are three main ways of pulling pictures into your DTP pages. If your second name is Warhol, you can probably draw them yourself in a painting or drawing program. As long as the DTP supports the file format of your artwork, you should have no trouble transferring images across. Not all DTPs support colour, though, so check this out if you want to print coloured images.

The second option is to scan pictures from magazines or books using a scanner, such as the

Datascan from Pandaal (☎ 0234 855666). Check for compatible file formats again and watch the copyright of the images you're scanning. If you resize scanned graphics, you can create Moiré fringes (ugly stripes) in your printouts – try and print them the same size you scanned them. To win a scanner worth over £100, turn to page 32.

Finally, you can buy predrawn clip art from a number of PD libraries, see our directory on page 44. This normally avoids any copyright problems, but images do vary in quality and age!

UNSCREWING THE JARGON

Bitmap – an image made up of a pattern of dots (pixels) – something like a newspaper picture.

Font – a typeface, such as Swiss or Dutch, in a given size and style. For instance, Dutch 12 point italic.

Frame – a defined area on a page which encloses a piece of text or a graphic. Some packages (such as *Timeworks*) enforce the use of frames more strictly than others (like

PageStream 2).

Typography – the study of type and its use on the page. It covers the design of fonts, their styles, spacing and positioning on the page.

Vector – an image described mathematically by the lines and vertices that make it up – also known as **scaleable** or **outline** fonts.

2, *Fleet Street Publisher 3* (£199 Silica ☎ 081 309 1111), *Calamus SL* and *PageStream 2* (£199 Silica) – support bitmapped and vector graphics formats. Bitmaps include files from *Degas*, *Neochrome* and *IMG*, while vectors are normally GEM metafiles.

To make the best use of these programs, you need to learn something about typography, but a

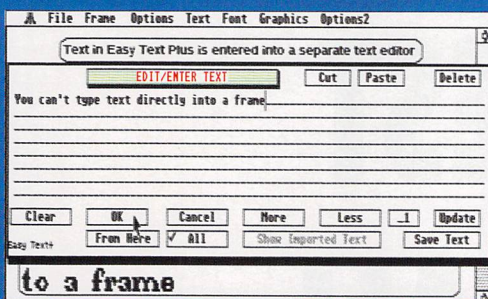
good way of easing the burden is to use paragraph tags. This is a system of shorthand offered by programs like *Timeworks 2* and *PageStream 2*. With tags, you can take a named font in a given size and style and set line spacing, indents and justification before encapsulating all the settings in a single name, such as "Headline." You can then apply them all in one

operation by quoting just the tag name. Another great timesaver offered by most programs is the page template. Imagine you've just spent three hours designing the front page for the first issue of *Dangerous Pursuits Monthly* and that the lead article on Piranha juggling fit perfectly. You know you've got issue two to complete in three weeks and can't face the thought of designing it again from scratch. All you have to do is remove the text and graphics and save the layout as a template. You can then load it up again for issue two – the one about snorkelling at Sellafeld.

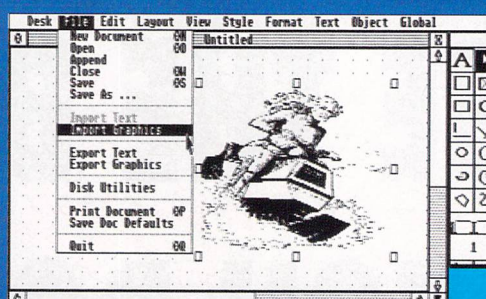
There are a number of other features that DTP packages can provide. *PageStream 2* and *Calamus SL*, for instance, can rotate text, which is useful for trendy captions up the sides of photographs and flashes saying "Special Offer." *Timeworks Publisher 2* can also wrap text around a graphic, rather than just around its frame. **stf**

YOUR WAY AROUND DESKTOP PUBLISHING PROGRAMS

Get to know what your program can do with text and graphics – just look at this guide to exploiting its potential

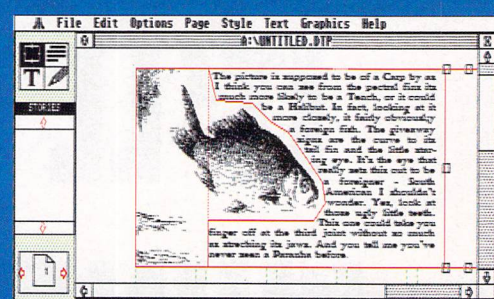


2 Most programs use the idea of frames to control the positioning of text and graphics on the page. You stretch a frame where you want it on the page and then type in text or import it from a word processor file. All but *Easy Text Plus* enable you to type text straight into a frame. This program, however, provides a separate text editor. This editor uses the GEM system font, which is a lot quicker than the bitmapped fonts used by GDOS. Using a separate editor isn't as quick and intuitive as typing on the page, though.



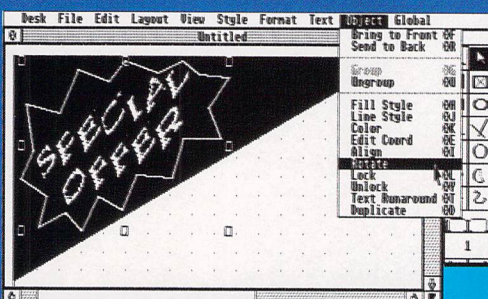
3 Pictures can be imported onto a page just as easily as text, as long as your program supports the file format of the graphic you're trying to import. *PageStream* can handle both bitmapped and vector formats.

The image of the jet-skier shown here was imported from the Hall of Images clip art library as a GEM .IMG file. *PageStream* automatically imports it at the same size and in the same proportions as the original clip. It provides handles, though, which you can use to resize the image as you need. You can also clip an image to display just a part of the whole picture.

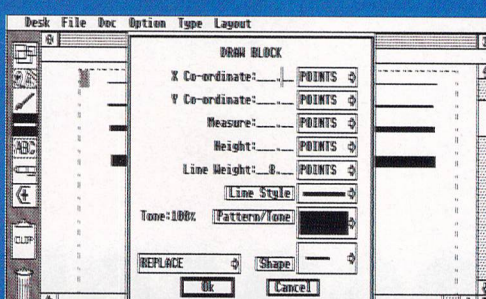


4 All DTPs can flow text around a rectangular frame, so that you can inset pictures into your documents. Some, such as *Timeworks Publisher 2*, can also wrap text around a graphic within the frame.

The technique *Timeworks* uses is very versatile, though it's not automatic. You lay the text frame over the graphic and choose Define Border from the Repel Text dialog box. You can then stretch either the left or right-hand side of the frame, point-to-point, into any shape you like. The text automatically reflows within the customised border. *Timeworks* can group frames temporarily, so you can move a wrapping like this from one place to another.

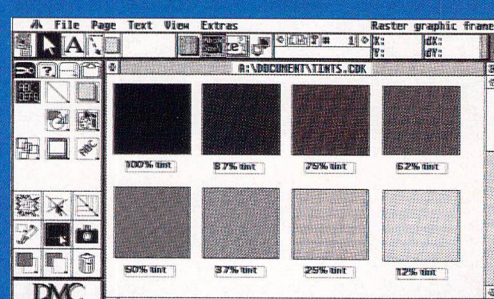


6 Combining the use of rotated text with polygons and freehand drawing can produce some interesting effects. This corner flash for a flyer was produced in *PageStream*. The "Special Offer" text was typed as a text object and rotated explicitly by typing an angle into the rotation dialog box. The colour was then reversed and a black-filled triangle was placed over it and moved to the background. The star shape was drawn using the line tool with the line coloured white. The finished composite can be grouped together and manipulated as one object.



7 Lines, sometimes called "rules" in publishing, can be tightly controlled within most DTP packages. In *Fleet Street Publisher* you can define the width of a rule to a hundredth of a point – not that there's much use for that degree of accuracy, even with a laser printer. There are 72 points to an inch.

As you can see from the "Draw Block" dialog box, you can also define the pattern and tint of the line, and the shape of its ends. This last feature is good if, for example, you need small arrowheads for a dimension line on a drawing.



8 *Calamus* can reproduce tints in a wide range of grey scales. To produce a tinted area, you use a bitmap frame, known within the program as a raster area. The special effects toolbox for this type of frame offers a wide range of fill patterns and tint saturation in one per cent increments.

The resolution of even the mono ST screen isn't enough to display one per cent changes in tint, but you can easily show eight grey levels and you can print more than this. Tints can be used to make panels on the page stand out, and for effects like frame shadows.

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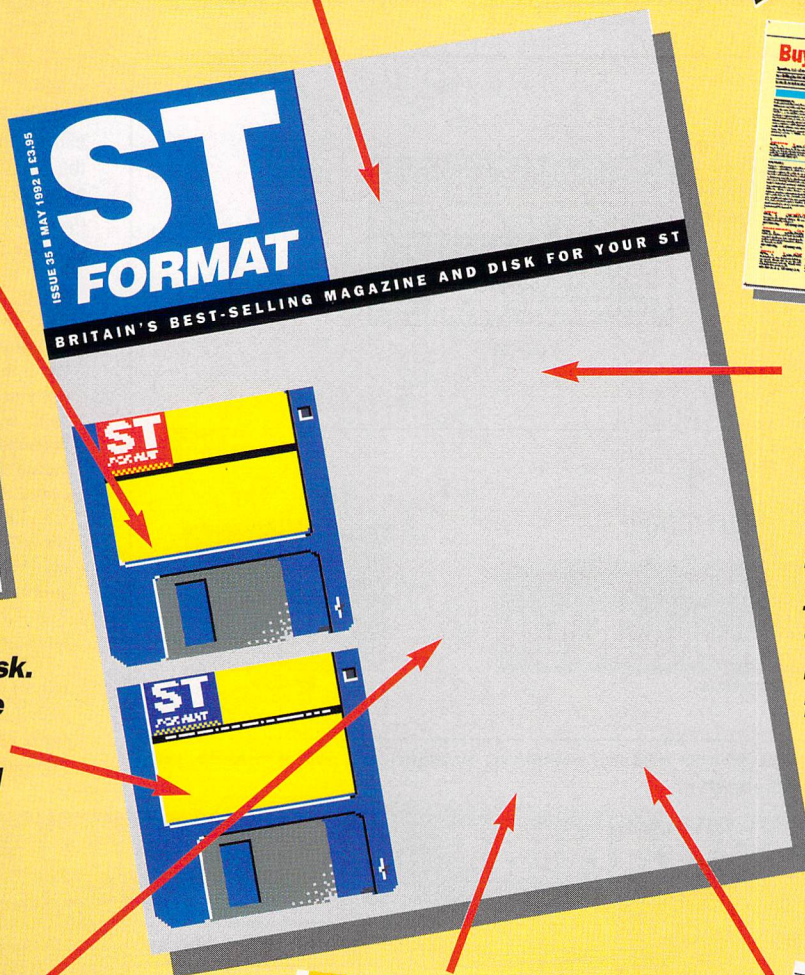
...PROBABLY



Mad hippie Jeff Minter made £10,000 when he released Llamatron as a Shareware game. He tells you how you can do the same



Next month we're giving away another complete package to help you expand your software collection and get even more out of your ST



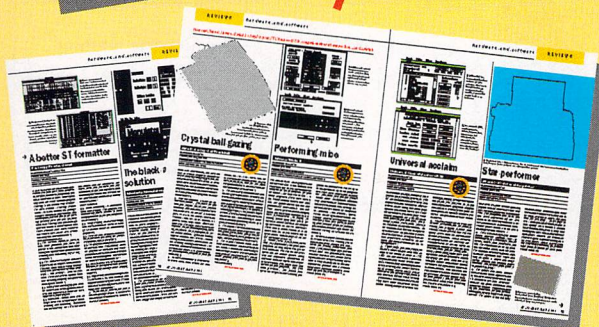
Next month's Buyer's Guide will be even BIGGER! We'll also take a look at the baffling terminology you're likely to encounter buying a memory upgrade from mail order ads



Don't miss next month's main Cover Disk. Besides being packed to the brim with Public Domain programs, a game demo and more, it also gives you the latest version of GFA Basic



We review and rate 50 top Public Domain programs all available for less than £4!



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Don't miss more tips on how to get the most out of your ST. Graphics, games, programming, music and more... it's all here!

Guarantee your copy of this fun-filled, action-packed rollercoaster ride they're calling *ST FORMAT*: turn to page 62 and subscribe, saving yourself money on our two-disk issues. Alternatively, reserve your copy with your newsagent by using the coupon on page 178. If you don't do either of these things, make sure you get down to your newsagent on **Thursday 14 May.**

The MIDI connection

In the second part of *STF's* series, Vic Lennard explains how to get the best from *Sequencer One* when you're using it with a MIDI music setup



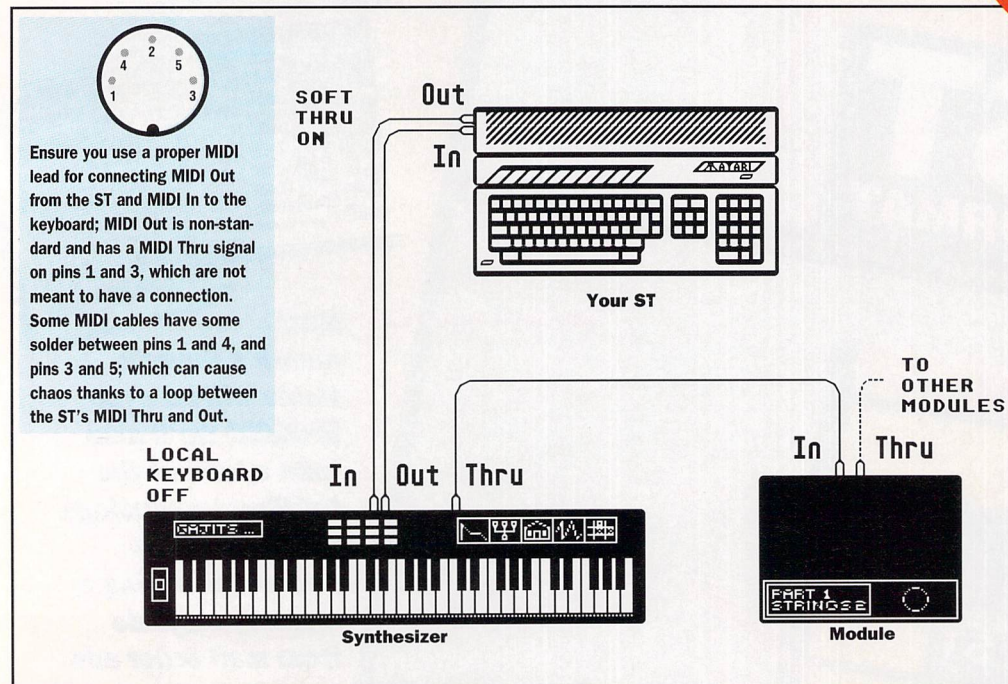
To make music with your ST, all you need is some sampled sounds and *Sequencer One* – and that was yours with *STF* 30. (If you missed that, turn to page 62 for details of how to get hold of it.) Last month we looked at using the

Sample Palette in *Sequencer One*, which needs no extra hardware. But add some MIDI equipment and the possibilities are breathtaking. This month we concentrate on setting up your MIDI system to get the most out of *Sequencer One*.

YAMAHA PSS SERIES

Be careful with the Yamaha PSS range of keyboards. While this very popular range of synths can play back many sounds at once (technically making it Multi-Timbral), any MIDI information received at the MIDI In is automatically re-transmitted from the MIDI Out. This means the MIDI info from the ST reaches the PSS synth, comes out from the MIDI Out and re-appears at the MIDI In of the ST – only to be re-transmitted from the MIDI Out again because the "Soft-Thru" facility is on. This leads to a "MIDI Loop" and absolute chaos in your sound. The only way around this is to turn off the "Soft-Thru" on *Sequencer One* and listen to what you are playing directly from the PSS keyboard.

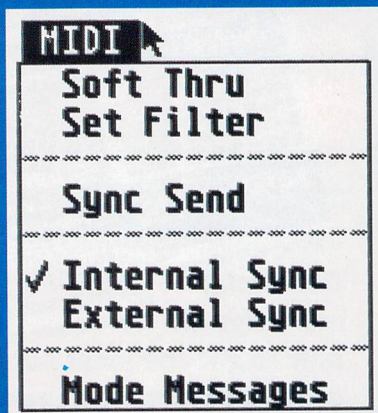
One good point, though: the PSS 790 can be altered to stop this automatic re-transmission from the MIDI Out. If you have one of these synths and want more information, contact Yamaha's Service Department on 09083 66700.



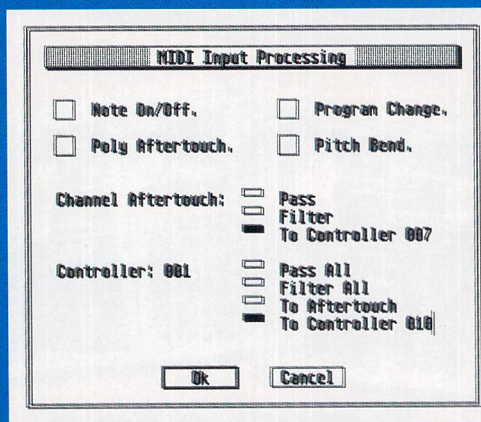
● If you have either a keyboard with its own internal sounds or an additional sound module, your connections should be as in this illustration.

HOW TO ORGANISE YOUR MIDI MENU

Certain menu options need to be set according to the equipment you're using:



1 **Soft Thru** enables the information from your keyboard to make its way to your sound source, whether it's a separate module or the internal keyboard sounds. However, it changes the MIDI channel of the MIDI information you're playing on the keyboard – notes, modulation wheel, sustain pedal and so on – to that of the current track in *Sequencer One*, which is the number after the triangle.



2 **Set Filter** is very important. It enables you to get rid of any data you are not going to use. Very few keyboards transmit **Polyphonic Aftertouch**, so you can pretty well ignore this option. Many keyboards transmit a MIDI **Program Change** message when you change from one patch to another; if you happen to be recording when you do this, the patch change is recorded and then takes place every time at that point on the track! Unless you actually want this to happen, filter this out. Various keyboards are capable of sending out **Channel Aftertouch**; this is additional information transmitted by further pressure on the keys after the notes have

actually sounded. Many sound modules can use this to bring in modulation, or perhaps to pitch bend notes; if your sound module can't use this, filter it out. Alternatively, you can convert it to another MIDI Controller; in the diagram, Channel Aftertouch is being converted to MIDI Controller #7, which is MIDI Volume, so that the harder you press on the keys, the louder the sounds are. This could be useful for controlling the speed at which a sound comes in – you could use it to swell in strings, for instance.

The final option here enables you to select any MIDI Controller and convert it to another. In the example above, MIDI Controller #1, the Modulation Wheel, is being transformed to MIDI Controller #10, the Pan control. Movement of the Modulation Wheel will then move around the stereo position of the sound you are currently working with, as long as your sound module can recognise MIDI Controller #10.

3 If you are programming your drums on a drum machine, **Sync Send** enables you to use *Sequencer One* as the Master; MIDI Clock and the other synchronisation commands are then transmitted from your ST to the drum machine. The only problem here is that *Sequencer One* has a bug: if Sync Send is ticked, you get garbage transmitted each time you hit the "Stop" button. If you need a working Sync Send feature, your best option is to upgrade to *Sequencer One Plus* – see the box for details.

4 **Internal** and **External Sync** enable you to select whether *Sequencer One* handles timing under its own steam or depends on receiving sync information from another sequencer or drum machine. Generally, select Internal Sync.



MIDI CONTROLLERS

Apart from just enabling you to press keys and transmit note information to *Sequencer One*, your keyboard often gives you access to other aspects of MIDI. You often find a **Modulation Wheel**, which adds vibrato to a sound when you twiddle it, and a **Pitch Bend Wheel**, which makes the pitch of the notes go up and down as you move it away from its central position. Another possibility is a **Sustain Pedal**, which makes the sound continue after you have removed your hands from the keyboard.

All of these are called MIDI Controllers and usually carry a number. Common ones are: Modulation Wheel (#1), Volume (#7), Pan (#10), and Sustain Pedal (#64). Pitch Bend is a little different in that it doesn't have an actual number.

Another type of MIDI Controller is called **Aftertouch** (or key pressure), which enables you to produce MIDI control information by simply pressing the notes down a bit harder once the notes have actually made their sound. Many sound modules do not recognise Aftertouch, or only allow it to achieve the same effect as using the Modulation Wheel. For these synths, *Sequencer One* enables you to remap Aftertouch to another MIDI Controller with the **MIDI Filter** page – you could use key pressure to pan a sound in stereo, or to affect the volume.

MIDI IMPLEMENTATION CHART

How can you tell whether your keyboard responds to Local Control On? How do you know if your synth recognises the MIDI Pan Controller?

At the back of the manual for practically any MIDI synth or sound module is a one-page MIDI Implementation Chart showing you what the MIDI device can transmit and recognise. If a particular type of MIDI event is recognised or transmitted, there is an "O" in the relevant space; if not, there's an "X".

The following are worth checking:

- **Aftertouch:** Can your keyboard transmit it? Can your sound module recognise it?
- **Pitch Bend:** Can your keyboard/sound module recognise it?
- **Control Change:** Which MIDI Controllers does your keyboard transmit? Which Controllers does your sound module recognise? These are usually given by number and name.
- **Aux. Messages:** Does your keyboard support Local On/Off? Does your synth recognise All Notes Off commands?

An inspection of these is sure to help you get the best out of the MIDI facilities on *Sequencer One*.

KEYBOARD MIDI TRANSMIT CHANNEL

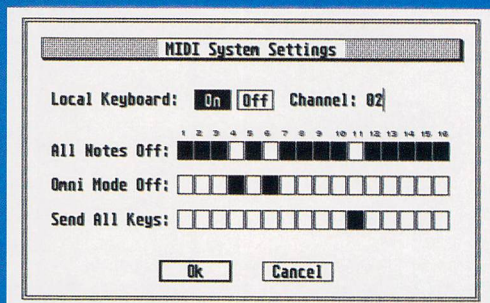
If you have a Multi-Timbral keyboard or sound module – one capable of playing many sounds at the same time – you need to be able to hear what the sounds are for each "part" or instrument. The MIDI transmit channel of the keyboard is irrelevant; you can leave it at any value between 1 and 16. MIDI information transmitted from the keyboard enters the ST at the MIDI In port and is then "channelised" to the MIDI channel of the current track on *Sequencer One*. By changing this channel, you can go through the sounds currently set up for each part on your Multi-Timbral keyboard or sound module.

Even better, if you change the Patch Number for a track on *Sequencer One*, which is the final three character number on each track, a MIDI Program Change command is immediately sent out to the sound module, enabling you to go through all the various sounds on your synth. Once you have found the one you want, simply leave the Patch Number for that track alone, move to another track, set up another MIDI channel and go through the sounds for the next instrument. In this way, you can set up all the sounds for a song before you even start recording – and, of course, the Patch Change numbers are saved with the song file.

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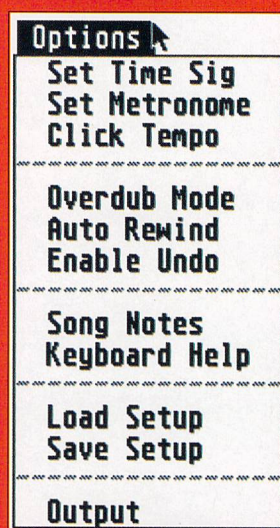
As if giving away *Sequencer One* back in Issue 30 on the Cover Disk wasn't enough, we're offering you special deals on associated packages. For example, the *Sequencer One* upgrade kit – including improved sample playback – is only £39.95, a saving of £90.00. Turn to page 162 to see how to benefit from these offers.

OPTIONS MENU

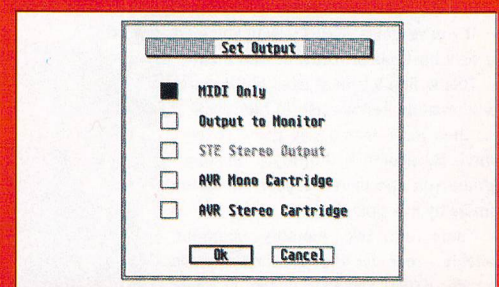


- 5 The final option is for **Mode Messages**. The settings here control what reset information is transmitted from the MIDI Out port when the sequencer is stopped. **All Notes Off** is a MIDI command which tells any hanging, or droning, notes to stop, but it is not recognised by every MIDI sound module, especially those made by Yamaha. For them and others, the **Omni Mode Off** command may work. For bolt and braces, **Send All Keys** transmits MIDI Note Off commands for each of the 128 notes – if you use this for all 16 MIDI channels, it takes about 1.3 seconds to transmit! Select All Notes Off unless you have a problem – then use Omni Mode Off.

At the top of the System Settings list is **Local Keyboard**. If your keyboard supports this, you can divorce the sound generation part of the keyboard from the keys. This enables you to hear the keyboard on the selected MIDI channel on *Sequencer One* if you're using a Multi-Timbral keyboard. You may need to send it a remote message to turn Local Control on. Select the "On" box, then set the MIDI channel to the basic MIDI channel of the synth, and *Sequencer One* transmits the local **Control On** command when you click on "OK."



- 1 The three selections at the top of the Options menu are important whether you are working with MIDI or not. **Overdub Mode** is used when you record and wish to mix in your new recording with the one that already exists. **Auto Rewind** takes you back to the beginning of the song when you hit Stop. **Enable Undo** uses part of the ST's memory as a buffer for storing data which would otherwise be erased when you carry out an edit. Should you then decide that the edit is incorrect, hitting the ST's <Undo> key brings back the original data. Each of these three can be set to your taste; chances are that you keep all three ticked.



- 2 Only one of the choices available from the Options Menu directly affects the use of *Sequencer One* with MIDI, and that is the **Output** option. If you are using *Sequencer One*'s Sample Palette, you need to have **Output to Monitor** selected; similarly, if you are using an STE, you should have the box in front of **STE Stereo Output** ticked out. However, if you are working solely from MIDI, both of these boxes should remain empty. In this case, the **MIDI Only** option should be selected. (Although the AVR alternatives are in this menu, they are not implemented within *Sequencer One* – you need *Sequencer One Plus* to use either of these. See the box on this page for details of how to order it and save £90.)
- 3 Having to make all of these various selections each time you boot up *Sequencer One* is quite a bind; that's what **Load** and **Save Setup** are for. You can store all of your custom settings, which are saved in the SEQ.ONE.CFG file and loaded in automatically each time *Sequencer One* starts up. If you change some of the settings and wish to get back to the way you were when you started up, simply use the Load Setup option.

Even more great ST offers at the

STF SPECIAL



You've seen Compo's Write On strut its stuff – now's your chance to get hold of more fabulous goodies from Compo Software and ST FORMAT

RAM UPGRADE

Many serious applications and an increasing number of games only work with 1MByte of memory, yet the basic ST contains just half of that – 512K. Before you think about selling your ST and buying one with more memory, upgrade it yourself with these exceptionally-priced RAM upgrades.

If you've got a 520ST, when you load *Write On* you only have about 100K of free memory. This is fine for most uses but if you intend making serious use of this package, then more memory is going to be helpful. By adding a 0.5MByte memory upgrade you can increase your available memory by five times!

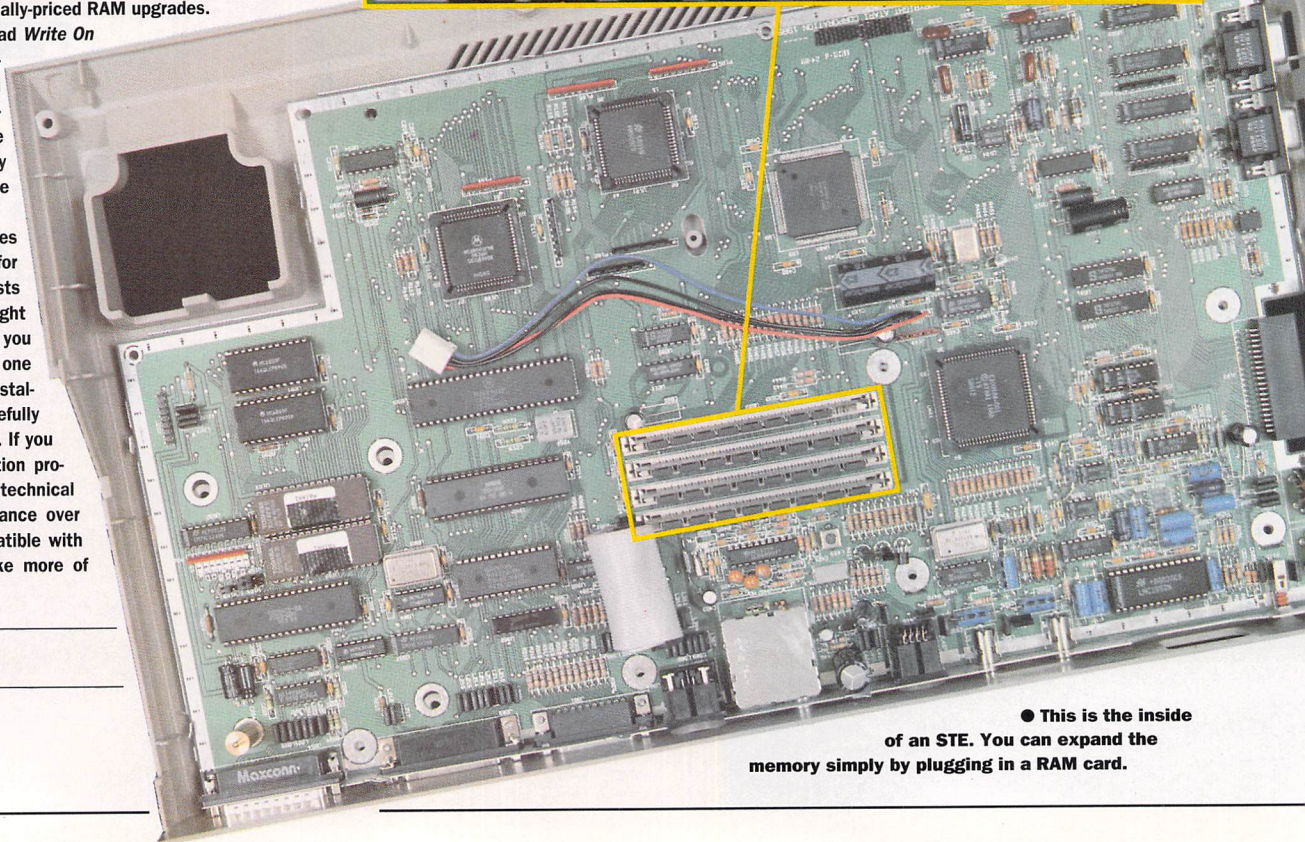
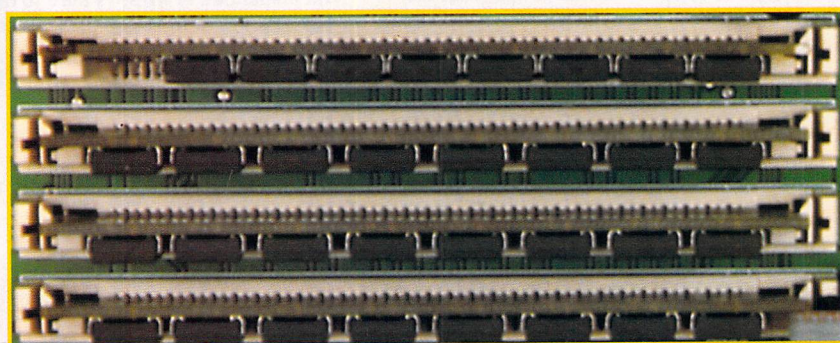
There are two memory upgrades available – one for the STE and one for the older STFM. The STE version consists of two 256K SIMMs which plug straight into your ST. If you own an STFM then you get a complete board which plugs over one of the chips in your ST. The complete installation takes around an hour and is carefully explained in a well-documented manual. If you have any problems during the installation process you can contact the specialist technical staff who are available to offer assistance over the phone. The extra memory is compatible with all ST programs, enabling you to make more of your software.

DESCRIPTION: STE RAM upgrade

Price: £17.50 ORDER NO: ST 399

DESCRIPTION: STFM RAM upgrade

Price: £45.00 ORDER NO: ST 400



● This is the inside of an STE. You can expand the memory simply by plugging in a RAM card.

best possible prices

OFFERS

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C-Font

If you want fonts but don't want to study for a degree in typography, *C-Font* is for you! This powerful package takes *Calamus* fonts and converts them to a special *Write On* format, enabling you to use them at any size. Since *Calamus* fonts are available from most PD libraries (catch our directory on page 44 if you want some), you have access to a vast source of new *Write On* fonts which can also be used in *That's Write*, Compo's upgrade from *Write On*. *C-Font* generates both bitmap and printer fonts for each font you want to convert. These are then given the correct names and saved in the right folders - you don't have to do a thing!

C-Font also works with *Timeworks Publisher 1* and *2*, *Easy Draw 2* and other GDS programs.

DESCRIPTION: C-Font

Price: £9.99 **ORDER NO:** ST 401



PRINTER DRIVERS

BJ-10e

180x360dpi and 360x360dpi driver for the Canon BJ-10e inkjet printer. Includes 10e internal fonts.

DESCRIPTION: BJ-10e Printer Driver

Price: £4.99 **ORDER NO:** ST 402

Amstrad GQ3500

The the only 24-pin printer which only prints at 180 dpi.

DESCRIPTION: Amstrad GQ3500 Printer Driver

Price: £4.99 **ORDER NO:** ST 403

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Deskjet 500 internal printer fonts

Support for the CG Times 12pt, Letter Gothic and various Courier sizes.

DESCRIPTION: Deskjet 500 Printer fonts

Price: £14.99 **ORDER NO:** ST 404

Epson LQ/SQ 400/500/850

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DESCRIPTION: Epson LQ Printer Fonts

Price: £9.99 **ORDER NO:** ST 405

NEC P6+, P60x, P20x, P30x etc.

Courier 5, 6, 10, 12, and 15 cpi, Times proportional, Helvetica and Souvenir.

DESCRIPTION: NEC P6+ Printer Fonts

Price: £9.99 **ORDER NO:** ST 406

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Epson Superfont

Orator, Orator caps, Script 6, 10, 12 and 15 cpi, Elite 10 cpi.

DESCRIPTION: Epson Superfont Cartridge Support

Price: £9.99 **ORDER NO:** ST 407

Deskjet Helvetica and Maths

Helvetica 7, 10 and 14 point, plus Maths symbols.

DESCRIPTION: Deskjet Helvetica Cartridge Support

Price: £14.99 **ORDER NO:** ST 408

Deskjet Times (HP22706R)

Times 5, 6, 7, 8, 10, 12 and 14, including true italic.

DESCRIPTION: Deskjet Times Cartridge Support

Price: £14.99 **ORDER NO:** ST 409

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Avant Garde

8, 11, 14, 24 and 30 point Avant Garde. An ideal selection for headings and a modern look to body copy. (Please state whether you're using a 9-pin, 24-pin or laser printer).

DESCRIPTION: Avant Garde

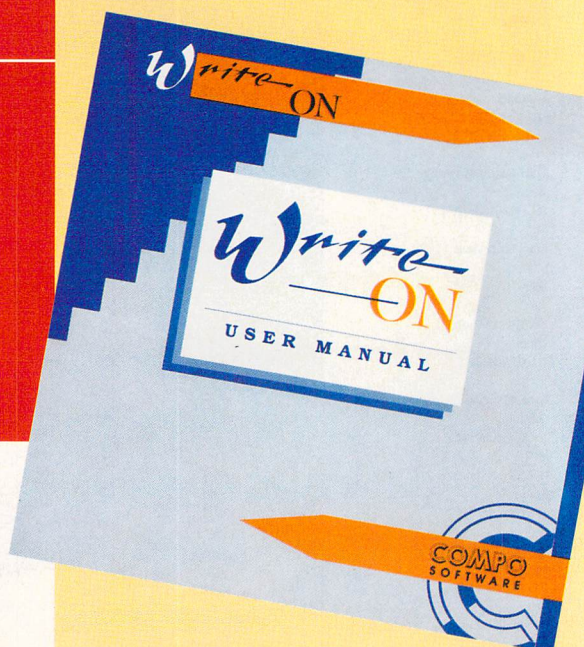
Price: £7.99 **ORDER NO:** ST 410

Laser Times fonts

10, 12, 14 and 18 point, including true italics.

DESCRIPTION: Laser Times Fonts

Price: £7.99 **ORDER NO:** ST 411



WRITE ON MANUAL

Get your hands on the full manual to accompany last month's complete word processing package.

DESCRIPTION: Write On Manual

Price: £14.99 **ORDER NO:** ST 412

HOW TO ORDER

● Just make a note of the name of the package you want to buy and the order number next to it. Then fill in the handy coupon below.

● If you wish to order by credit card or have any queries, ring the **ST FORMAT** Mail Order Hotline on:

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ST FORMAT Mail Order

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Feedback

It's that time of the month again when the Editor gets his chance to answer your letters in his own... er, *distinctive* way. To get your point of view across, write to The Editor, Feedback, **ST FORMAT**, 30 Monmouth Street, Bath, Avon BA1 2BW

ALL QUIET ON THE WESTERN FRONT

People often complain of not receiving replies to their letters from companies dealing in ST software and hardware. Having written to various ST dealers before investing in a hard drive and a Mega STE, I must say I share the same experience and am amazed at the almost guaranteed lack of response from about 80% of the companies I've tried to deal with.

When I wanted to buy a hard drive in 1990, I wrote to ten companies asking for details and received one reply. More recently, I wrote to six companies (including some I had written to in 1990) asking for details on the Mega STE, which I was hoping to buy. I had two replies. Although the replies that I did get (from Evesham Micros and Ladbroke Computing) indicated that the machine was not available at the time, I suspect that I won't get a further letter from them when the machines are in stock.

I have given up filling in the coupon

from Silica Shop advertisements since I never get a new catalogue from them – despite buying my STFM and, later, my printer from them.

In the past I have bought software and hardware from many different companies, and my details and "profile" must be with hundreds of companies, but I have hardly ever received mailshots, news, upgrade offers or general junk mail which I would actually welcome in this case! This must be almost unique in marketing history! Do companies not recognise potential customers?

K Bolton, Kidlington, Oxon

stf: Mailshots are the easiest thing in the world to create if you've got a computer, so it seems odd that the ST software industry doesn't recognise the benefits of this kind of promotion – perhaps we need to introduce more publishers to the Mail Merger in 1st Word Plus. The problem isn't that these companies don't recognise potential customers, but rather that they aren't geared up to push their goods effectively.

The computer industry is relatively new and, although the hardware side of things is certainly on the cutting edge, the sales side is still in the Dark Ages. Sales catalogues and brochures often don't get done unless a company intends to take a stand at a show. You've only got to look at adverts from many ST dealers to see that they haven't learned any lessons from other marketing areas. Flick through ads in the Sunday magazines and you see lots of white space – some interesting and bold illustrations, but very few words. The advertisers in these magazines realise that it's more important to capture people's attention with something striking. Look through ads in the computer industry and you notice that white space is non-existent. It's all words, words, words, which don't do a very good job of making anyone stop and look at the ad.

I spoke to Silica on your behalf and asked why they never sent out catalogues. Andy Leaning of Silica said that they usually responded to catalogue requests fairly instantaneously, but at present they are waiting for Atari to update their price lists, which may explain the delay.

LUCK OF THE DRAW

Stephen Murgan's letter (STF 32) seemed to favour the use of mail order, while griping about the lack of "try before you buy" facilities provided by retail outlets. I am sure that there is an even greater lack of such facilities when using mail order.

Most of the retailers I frequent have a selection of software up and running, so that you can, at least, get some idea of what you are buying. Although it would be ideal for customers to try the game before they buy, I am sure it would be highly impractical from the retailers' point of view. I would say from my experience that most retailers just don't have the time or the space to provide such a facility, which I am certain, if it could be implemented, would be in great demand.

There would also be the cost of running and maintaining the machines needed – most machines would soon crumble under the onslaught of hundreds of sticky little mitts assailing them day after day.

Mail order companies are just as ill-informed with regard to release dates as retailers. After all, both parties can only rely on the publishers for their information. At least with the retail side of things, you can, to some extent, examine the item you wish to purchase – whether it be by reading the jargon on the packaging, or in some cases, seeing the program running.

I think mail order is far more misleading in the way it advertises software that often is not available for the particular machine shown.

I would agree that the games market is, to some extent, "cut-throat," but then it's really a case of shopping around and, if you do get a bad deal, don't give your custom to that outlet again.

Andy Hale, Battersea

stf: ST software is too expensive to be an impulse purchase, so many people want to see if the games are any good before investing their hard-earned cash. If retailers can't provide any kind of "try before you buy" system, then they're

WHERE TO SEND YOUR MAIL

To improve your chances of getting a reply to your letter, make sure you write to the correct people. Here's a list of where you should send your letters:

FEEDBACK

This is the place to write to if you want to voice your opinions about any ST-related topic. Let off steam and possibly win money in the process. We pay for the best letter received. Write to The Editor, Feedback, **ST FORMAT**, 30 Monmouth Street, Bath, Avon BA1 2BW.

TECHNICAL QUERIES AND TIPS

If you have any queries about how your ST works, or any specific problems with using software packages, then explain your problem as concisely as you can and address your letters to ST Answers, **ST FORMAT**, 30 Monmouth Street, Bath, Avon BA1 2BW. We guarantee to answer every query we receive. Write to the same address if you have a technical tip – it could win you £50.

GAME TIPS

You've just worked out a short cut to get to the end of *Monkey Island*, or *Falcon* has just become ridiculously easy now you've discovered that secret password. Write down your tip and send it to Gamebusters, **ST FORMAT**, 30 Monmouth Street, Bath, Avon BA1 2BW. There's up to £50 for new tips every issue.

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AN IDEA WORTH LISTENING TO

I have an idea I'd like you to implement, not only for me but for all aspiring and envious ST artists who can't draw a line. Would it not be possible to include on the Cover Disk the outline screens in your Gallery? That would give us a chance to create the final picture.

Derek Johnston, Belfast.

stf: Thanks for that brilliant idea, Derek. In fact, it was so good that I changed my original plan to put the finished screens from this month's Gallery feature onto the Cover Disk, to putting on the initial screens. Follow the guide and see if you can get the same end result – it could win you a £100 scanner. See the competition on page 32.



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SHORT BUT SWEET

If you can fit all you want to say on the back of a postcard, we're far more likely to print your letter.

I intend to purchase a monochrome monitor and had decided upon the Atari SM-124 following your reviews, but Atari now have a new model called the Atari SM144 which I would go for instead because it is larger. Can you tell me if it's worth buying?

Richard Heaven, Southsea

– We're conducting a monitor roundup in our July issue, out Thursday 11 June, where we look at the ST monitors you can buy. If you want to buy a monitor, wait and read our roundup first. Also included in this roundup is a review of one of the large A4 screen monitors which could be particularly useful if you want to use your ST for DTP work.

I felt the need to write after I purchased the *Champions* compilation pack by Krisalis. On the instruction leaflet was a small message about piracy. It read: "Any fool can copy software; it takes a little more intelligence not to." This really made me think and convinced me not to copy software. So I hope that this small message will make other people stop and think, so we can try and abolish piracy altogether.

David Robson, Cleveland

– It's a shame it isn't always that easy to stop piracy.

Please could you tell me whether Abacus is an American book publisher, and, if so, how do you order books from them? Also, is Atari ST Machine Language a good book to start to learn the language because you gave it 88%?

Ian Bailey, Dorset

– For any ST-related book, contact Computer Bookshops (☎ 021 706 1250). They sell all the Abacus titles in the UK. Intro-

ducing Atari ST Machine Language was written by our assembly programming expert, Roger Pearson. You can buy it from zzSoft (☎ 0254 672965).

I am a fugitive from an upgraded Electron. I've recently purchased a 1040 STE and wish to access my old Beeb word processor and spreadsheet. I purchased a PD BBC emulator – Byteback BU 60 – only to find it was not suitable for the BBC ADFS system, being for the DSF system only.

Try as I may, I have been unable to locate a suitable emulator. Can you please tell me if and where I may be able to obtain one?

Jeff Somerville, Shoeburyness, Essex

– There is only one emulator for the BBC and that's a pretty abysmal Public Domain version. Why do you want one anyway? The ST makes the BBC look like a Stone Age monster.

I don't see the point in changing the Cover Disk format, and by doing this, abandon the single-sided drive owners. I myself have an STE with a double-sided disk drive and I don't mind at all opening a few folders before I can run the programs. I do not think that because Mr Laugharne (STF 31) is confused by all the talk of side A and B and because he finds it difficult to open a folder, you should discriminate against the ST owners with a single-sided disk drive.

Goffart Maurice, Belgium

– But some people do mind. There are so few single-sided owners left that there's no point in making the disk unnecessarily complex for anyone to use. More importantly, the new format gives us more flexibility in the size of programs we can put on the Disk, and that can't be bad.

In *The Secret of Monkey Island* instructions, it says that I should back up my game disks. The only problem is that when I come to do this, "the source disk is not the same type as the destination disk" comes up on the screen. Is this because the disks the game is on are formatted to a different number of tracks and sectors? How can I format my disks the same as the game disks?

Richard Desmond, Richmond, Sheffield

– Turn on your ST without the *Monkey Island* disk in the drive, then insert it and double-click on the Disk Drive icon to open a window. Then drag the folders one by one to the other Disk Drive icon and swap disks when prompted.

Are there official Atari light guns or light pens and if so, what software can be used with them? Where can you get them and how much do they cost? Could you recommend some high quality disks that do not come up with "Data on the disk in drive B may be damaged"?

Doug Dixon, Colchester

– *Trojan* (☎ 0554 777993) sell a lightgun (£39.99) and an assortment of games which use the lightgun. Go for branded disks if you want to avoid damaged data problems. Also, if you're having problems, only format your disks to nine sectors using only 80 tracks.

I would like to program games, but I have hit a problem – I know nothing about it! I have *GFA Basic 1* and *Devpac 1*, so could you recommend a good, cheap book in one of these languages?

Robert Pickering, Rotherham

– If you have any plans to sell your games to software publishers, you'd be better off investing in *Devpac 2* (Hisoft ☎ 0525

718181) or something like STOS (turn to page 46 for a bargain offer). As a first step, invest in the *Game Maker's Manual*, reviewed on page 58.

Please could you tell me if there are any games for my four-player adaptor and where I can get hold of them?

Duncan Laird, Kerry, Mid Wales

– At the moment, we're not aware of any games that utilise the four joystick ports on the STE, Duncan. Microdeal used to sell a four-player adapter which connects into the printer port and enables you to use four joysticks at once – this may be what you're referring to. Only *Gauntlet* (US Gold ☎ 021 625 3388) and *Microdeal Soccer* (Microdeal ☎ 0726 68020) were ever compatible with this device.

After the fourth 16-bit Computer Fair last year, I wrote to you with several complaints. I have today been to the fifth show and I am glad to say that both my wife and I were very pleased with the venue this year. There was room to move! It was also nice to see that Atari had, at last, taken a stand. There were many faces working behind the stands that we recognised and some even remembered us from last year.

We have now been Atari fans for 14 months and, in all that time, have always been treated very well by both shops and mail order companies. We have on some occasions actually been shocked by the warm comradeship that ST dealers, mail order companies and users have shown us. To all these people we would like to offer our eternal thanks.

Ray Whitehurst, London

– Are you sure you're not working for Atari's PR company, Ray?

→ not providing any better service than the mail order companies. There are practical obstacles to a "try before you buy" system, like a lack of space, and wear and tear on the machines, but these are surmountable. You acknowledge the fact that, if retailers provided a "try before you buy" scheme they would be extremely popular, but the question they must ask themselves is whether they would actually sell more games? Inevitably, the mail order enthusiasts would use the retailers to try the game and then go and buy it from mail order companies. But the shops would hope that many others would buy the game from the retailer.

Mail order software companies aren't supposed to advertise any game for sale unless it's actually available. Andy, you could contact the Advertising Standards Authority (☎ 071 580 5555) and complain if you think mail order companies can't deliver the goods they've promised in their advert.

It's the very fact that mail order

companies can't operate any kind of "try before you buy" system which enables them to keep their costs low. Your final comment that "if you get a bad deal, don't give your custom to that outlet again" seems a little strange. What do you mean by "a bad deal"? If they sell you a duff game, that can hardly be their fault – it's up to you to read reviews of the games you like in ST FORMAT and then decide what to buy from those. Don't just splash out on the first title you see and cross your fingers in the hope that it's okay.

CLUELESS SALESMEN

With reference to your Feedback pages and Stephen Murgan's letter (STF 32) regarding retailers, I think that the first problem is Atari's – they seem to do very little to dispel the general belief that the ST is any more than a games machine, although I noticed their Christmas TV advertising campaign went some way towards doing so.

Having been a salesman, manager and area manager for a couple of major electrical retailers, I don't think product knowledge of something that, on face value, was used for playing games on would be high on my list of priorities. I recently spoke to a branch manager about an ST package deal he had on offer and he said, "Well, you know, it's really for kids." I did my best to educate him!

So, I think the first move should come from Atari. Secondly, anyone dealing with a retailer, ask for the manager. Believe me, he cares – even if only because it puts dosh in his pocket. The fact that the ST can offer much more than is generally thought might filter back to his Head Office – and they are the guys who make things happen.

Roy Lucas, Wyton, Huntingdon

stf: It's distressing to hear that salesmen still think of the ST as a games machine. I think part of the problem stems from the fact that they divide

computers into two categories – business and games. The business category mainly comprises PCs, which are used extensively in the workplace. The games category is perceived as the opposite of a work machine – a games machine. Salesmen seem unable to recognise that computers used at home aren't intended for purely games purposes.

Atari have a newsletter they send to developers to encourage them to understand the ST. This should be made more widespread. More effort should also be put into stressing other sides of the ST's abilities, especially in the shops. Since the middle of last year, Atari have been trying to sell the ST as an all-round machine under the guise of the *Family Curriculum Pack*. This pack now outsells the *Discovery Xtra* games pack, suggesting that customers know the ST better than the salesmen. I certainly agree that a few more of these customers should enlighten the shop manager.

SHOW SOME
RESPECT

After reading in your December issue that the estimated sales of 520 STs would reach 700,000+, I am surprised that the software houses – US Gold, Microprose and so on – are blatantly ignoring the ST. Take *Eye of the Beholder* for instance, which is unlikely to make it onto the ST.

The game itself does nothing that the ST cannot handle, and when asked about this game, US Gold said that the game might be released, depending on the sales of *Shadow Sorcerer*, which sounds a little like, “if you don’t buy this game, you won’t get another.”

Having used an ST for five years, I can only say that if Atari want to stay in the running, then the big guys who run Atari had better pull their fingers out and do something about the state of the software industry. I hope other readers of your fine magazine feel the same way as I do, and, with a bit of persuasion, the software houses just might treat us with a bit more respect and not try to write us off.

Tony Nixon, Stoke-on-Trent

stf: No-one could dispute the fact that the ST is still making money for Atari, so they have no intention of abandoning it. Advertising campaigns are planned to promote the ST in the future. However, software publishers are finding that ST owners are more discerning in their games tastes. Adventures, strategy games and simulations are all prime sellers for the ST, but shoot-em-ups and platform games don’t sell nearly as well. Some software houses need convincing that certain types of games will sell, which is why US Gold want to see how *Shadow Sorcerer* performs before writing a conversion of *Eye of the Beholder*. In contrast, serious software producers are finding that ST sales are still outstripping the Amiga games machine and PC. We’re trying to convince the software publishers to write ST conversions. If you know of any games you feel the games houses should convert to the ST, then turn to page 153 to find out what you can do.

On a brighter note, Atari are intending to release a new machine which looks certain to put them back at the forefront of leisure computing. (We revealed it in last month’s News pages – see page 62 if you missed it – and see page 24 for more.) They have also recognised many of their past problems and are ensuring they don’t make the same mistakes again. Developers are going to be given the machine early, so they have a chance to produce software before its end-of-year release.

CHART ATTACK

From Dorian Bloch, Gallup, London:

In response to your “No more Gallup” article in *ST FORMAT* 32 in March, I

BREAK THE CHAIN

WITH LOVE ALL THINGS ARE POSSIBLE

This paper has been sent to you for luck. The original is in New Zealand. You will receive good luck within four days of receiving this letter provided you, in turn, send it on. Send no money as fate has no price, do not keep this letter. It must leave your hands within 96 hours.

An RAF officer received \$47,000 while in the Philippines. Gene Welch lost his wife 51 days after receiving this letter – he failed to circulate the letter. Before her death he received \$7,775.

Please send 20 copies and see what happens in four days. The chain comes from Venezuela and was written by Soul Anthony DeGroup, a missionary from South Africa. Since the copy must tour the world, you must make 20 copies and send them to friends and associates. After a few days you will get a surprise.

This is true even if you are not superstitious.

Do note the following: Constantine Dine received the chain in 1985. He asked his secretary to make 20 copies and send these out. A few days later he won the lottery of over 20 million dollars. Carlo Baddit, an office employee, received the letter and forgot it had to leave his hands within 96 hours. He lost his job; later after finding the letter again, he mailed 20 copies. A few days later he got a better job. Alan Fairchild received the letter and not believing, he threw the letter away. Nine days later, he died.

would like to clear up a few points concerning the three titles you mention as inaccurately portrayed in the chart.

You say that *Robin Smith’s Cricket* from Challenge Software appeared at number six in the December 1991 Atari ST Full Price Chart. Having looked at the back issues of *ST FORMAT*, I discovered that you are actually making reference to the chart featured in the October edition of *ST FORMAT* – not the December edition as stated in your article.

The October chart used in *FORMAT* does, in fact, feature *Robin Smith’s Cricket* at number six (or number 31 in the combined Full and Budget Price Chart) and this is based on sales information for the month ending 17 August 1991. *Robin Smith’s Cricket* first registered in Chartalk number 291 for the week ending 3 August 1991, and, as one of the very few cricket simulators available, debuted at number one on the ST Full Price Chart. Thanks to the specialist nature of this title, it then spent a brief two weeks at number seven and began sliding out of the chart as the cricket simulator market became saturated.

Moving on to *Manchester United Europe*, you state that the ST version featured in the chart before it had even

In 1967 this letter, received by a young woman in California, was very faded and barely visible. She promised herself that she would retype the letter and send it on. But she put it aside to do later and she forgot. She was plagued with various problems, including expensive car repairs. The letter did not leave her hands within 96 hours. She finally typed the letter as promised and within days she won a brand new automobile.

REMEMBER: Send no money and do not sign this.

ST. JUDE

It works.

stf: Er, yes. Lock up your women and children – it looks like there’s a sicko on the loose. It’s impossible for me to know who sent this chain letter to me but if you’re reading, I have no intention of passing it on. It concerns me that an STF reader has sent me this letter because it implies that copies are circulating the ST community. If any other ST owners receive a similar letter, throw it straight in the bin. If you’re afraid of doing that, then send all 20 copies to me and I’ll bin them for you. Some people could become very distressed by receiving this kind of mail so please don’t pass it on. This is a stupid letter created by a sick imbecile who relies on people’s fears to get it distributed. Don’t give him his kicks by sending it to someone else.

There, that’s my *Esther Rantzen* bit over with. I feel better now.

been released. This title from Krisalis first appeared in Chartalk at number 288, week ending 13 July 1991. I have been in touch with Krisalis for the official release date for the ST version and this was, in fact, Thursday 4 July.

Finally, two formats of Microprose’s *Railroad Tycoon* were issued with identical bar codes. As soon as the problem was spotted, the chart was corrected. Fortunately, the majority of publishers now supply us with new release packaging, so that potential problems can be tackled in advance.

On the subject of *Robin Smith’s Cricket* and *Manchester United Europe*, I must insist that you make it known to your readers that the underlying fear of inaccuracy and manipulation portrayed in the article is incorrect.

stf: No-one is suggesting the charts are manipulated. What concerned me enough to run the story was the fact that I spoke to Challenge Software and they informed me that throughout all of 1991, they sold only between 1,000 and 1,500 copies of the game. This suggests that only a tiny number of games need to be sold to reach top positions in the chart. As you say in your letter, the majority of problems with the chart stemmed from the Octo-

ber issue and not the December issue as stated.

I am a little bothered by the point you make about Manchester United. When we ran the chart in our October issue, we were baffled at Manchester United’s entry because we hadn’t seen a review copy. At the time we contacted Krisalis for a review copy and were told that it wasn’t yet available. We then contacted Fergal Murray at Gallup to discuss this and other anomalies with the chart and he attributed this – and the Railroad Tycoon entry – to the wrong bar codes being used. I have since contacted Krisalis again and they now say that the ST version was released in May – by Christmas they’ll probably insist it was the first ST game ever released.

In the News article, I appealed for people to write and let me know whether they wanted us to continue running the chart. I received only one letter in favour of the idea and one against – which doesn’t show much strength of feeling. If anyone feels strongly that we should continue to run the charts, please write and let me know.

DROWN AND OUT

In your article about the collapse of Mirrorsoft, you advised anyone who was having problems receiving their software titles to get in contact with Acclaim on ☎ 0962 877788. This I did, and, although they were very polite and helpful, it is, at the moment, out of their hands.

My problem was that I had returned faulty disks and for five months I did not receive a working version, so I was told by Acclaim to write to The Administrators at the Mirrorsoft address and state the problem.

From what I can gather, the Administrators are, for the moment, sorting out the mess that Maxwell left when he drowned, and once this is done, the various software titles are to be auctioned off to existing software houses. Therefore, if anyone has sent back faulty disks and so on, write to the Administrators and demand that they return them. This way you have something to return when the software titles are taken up by another software house.

I hope this will help some of your readers who might be in the same position as me.

John Hamilton, St Peter Port

stf: Anyone with problems should write to The Administrators, Irwin House, 118 Southwark Street, London SE1 0SW. Thanks for your advice, John.

WRESTLING WITH A
HUMORLESS READER

I am writing in response to Ed Ricketts’ review of *WWF Wrestlemania* in issue 32 of your magazine. His opinion of the game may well be fair, but the opinion

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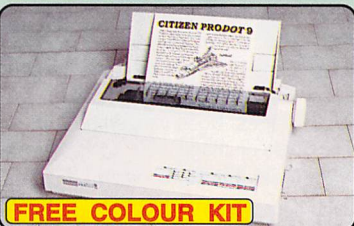
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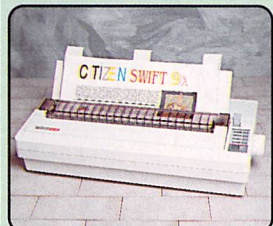
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Which computer(s), if any, do you own? 55E

he expresses on the subject of WWF Wrestling is not. Is it fair to comment on the subject matter as "ridiculous" and "pathetic"? This seems strange coming from a magazine with a circulation of circa 70,000 copies a month. Last time the WWF toured the UK, all 250,000 tickets sold in a few hours!

Obviously, *ST FORMAT* hasn't got it right – maybe it could improve its circulation by improving on its reviews, rather than trying to rubbish the competition that its potential readers would rather spend their money on. I'm awaiting a more professional approach to game reviews.

Mark Edwards, Wokingham

stf: It was a joke. They may not have them where you come from. I don't know what makes you think that all STF readers should be wrestling fans. By your reckoning, all we need to do is run a picture of Hawk Hogan on our cover and we'd sell a quarter of a million copies – er, I don't think so! Do you do your nut whenever anyone criticises wrestling? I suggest you seek professional help.

RADICAL CONCEPT (DUDE!)

I am writing to say that my wife and I are starting a PD library here in Queensland, because there are very few

libraries here and most charge A\$10 per disk – a rip off! We want to copy PD at A\$2 per disk – you supply the disk and a stamped SAE and we give you as much PD as we can copy onto the disk from our list. Mail order only; no cheques.

I would be interested to know if there are many people interested – particularly in Australia – in this service. Please ask your readers to write to me.

**Robert Birks, Boomerang PDL,
2/5 Warrie Close, Paradise Point,
Queensland 4216, Australia**

stf: It sounds like an excellent idea. Try getting hold of more varied software, either from UK sources (see our PD directory on page 44) or from bulletin boards. Good luck!

FIGHTER IS THE PITS

I feel compelled to write to you about software policy in High Street stores. My older brother bought *F-15 Strike Eagle 2* (£35) from Boots in our town shopping centre. He brought it home, tried it, and found that he didn't like it, so he returned the game to the store the same day and asked for an exchange in software of comparable price or less – with the difference refunded to him. Boots' Software Manager completely refused to do this. Instead, he was given store vouchers to the value

of £35 – what's the difference? With these vouchers, he bought *Pit Fighter* from Domark (£25). If this is their idea of a perfect conversion, I suggest they buy a good dictionary to find the definition of the word "perfect" and try to understand that "conversion" doesn't mean "killing off playability." Although I don't expect the computer version to be as good graphically, I do expect the playability to be maintained. If this kind of advertising were on TV, I feel Domark would be faced with a few lawsuits. Anyway, Boots, being Boots, will not exchange the game for another and they are not giving out any more of their beloved vouchers for the return of the game. So, my brother has just lost £35 on software neither he nor anyone else in my house will use. And he still has £10 worth of virtually useless Boots vouchers. Where does he stand? Do we have no rights? John Menzies, incidentally, exchange software on a regular basis without 20 questions!

R Rooney, Stirling, Scotland

stf: I'm surprised you've been getting vouchers from any of the stores. They're under no obligation to refund your money. If you bought the latest CD from *Shakespeare's Sister* and then found you hated their music, you would hardly expect a refund. After all, as far as the shop is concerned you could

have taken the CD home, copied it and then come back for something else. It is exactly the same with *ST* games. By far the best way to guarantee you only buy good software is to read our reviews first. We review every *ST* game released. A shame you don't live closer to Cynthia Payne. I'm sure she could find a good use for your vouchers.

AN EYE FOR DESIGN

In January's edition of *ST FORMAT* (STF 30) on page 106, it says that Chris Lloyd scanned in a picture of an eye for his *Big Eye* demo in mono (dithered) and then converted it to a colour image using *Imagemod*. Please could you tell me where I can get a copy of this program and how much it will cost? By the way, my scanner only works in high res and therefore produces images in mono. I have a program called *Convert* which turns them into low res mono images. Does *Imagemod* work with this type of image?

Mark Jones, London

stf: Chris says: The *Imagemod* program is from Pandaal and came with my scanner a couple of years ago. It has now been renamed *Colourit*. Pandaal might sell you a copy if you ask nicely – ring them on ☎ 0234 855666. Alternatively, you could use a Public Domain program like *IMG* to *Deg* to convert the *IMG* files to *Degas Elite* pictures, then *Picswitch* to change them to greyscales – this is less flexible, though. See our PD directory on page 44 for details of where to go.

W A N T E D !

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TWOSOMES ARE MORE FUN

Every Sunday I link my *ST* to a friend's and we play two-player games using the modem link. It's great being able to play with two players on such games as *Falcon*, *Flight Sim 2*, *Hard Drivin' 2*, *Stunt Car Racer* and so on, since I find a human opponent much better than an *ST*, because they're more realistic and challenging.

I would like to see more "link" games being produced, especially the three dimensional ones. *Flames of Freedom* or *Damocles* would make excellent two-player games.

S Calvert, Dewsbury, W Yorks

stf: Two-player games certainly are some of the most absorbing. The sort you mention are preferable to traditional two-player games because each of you has your own *ST* and screen, so you can't see what your friend is up to. *Bullfrog's Populous 2* can be played using a modem link, and it's so gripping that I've hardly been able to get Ed and Chris to leave it and do any work.

Got something to get off your chest?
Address your letters to The Editor,
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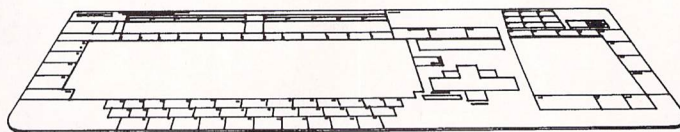
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Let's face it, software publishers aren't the most intelligent of human beings. They can't be – many of them are turning their backs on the ST because they say not enough ST owners would buy their games. Now's your chance to prove them wrong and get those top games onto the shelves

However hard you try to ignore it, no one can dispute the fact that many games software publishers just refuse to convert some of their best games onto the ST. Ask them why and you get the excuse that not enough

copies are being sold on the ST. The sad fact is that often the very games they refuse to convert are precisely the games that would sell best on the ST.

We're not disputing that certain types of games haven't sold particularly well on the ST. Platform

games, shoot-'em-ups and adventures aren't selling too well – but why? Because we've seen so many of these games that we just don't want any more. When *Kick Off 2* was released we all went mad over it and bought every copy we could find, but it was followed

TEN GAMES YOU MAY NEVER SEE ON THE ST



BOB **Electronic Arts**
Another ground-breaking concept from the Bullfrogs, creators of *Populous 2* – mixing the gameplay of a *Lemmings* with the graphics and style of a *Populous 2* or *Power-Monger*. You remotely control a droid by adding various influential chemicals to his system, in order to manipulate him around a cityscape and achieve your nefarious aims.

This sort of strategy affair, enlivened by excellent 3D graphics, positively thrives on the ST: witness *Populous*, *Mega Lo Mania* or the *Turcan* series of wargames.



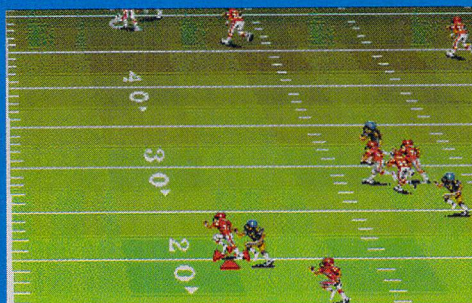
Civilisation **Microprose**
Imagine a game that takes the basic concept of *Railroad Tycoon* and expands it a thousandfold. *Civilisation* gives you the chance to recreate world history, from the time of the cavemen, through the Egyptian and Roman eras, right up to the modern-day world. It uses the same principles as *Tycoon* – an overhead view of the world upon which you lay your “building blocks.”

Civilisation could virtually last for ever – it's almost infinitely variable, with heaps of playability and possibility.



Eye of the Beholder **SSI/US Gold**
There's never been another game to match or better *Dungeon Master*, except perhaps *Eye of the Beholder*. Using the same first person perspective as DM, it takes you through a labyrinth of dungeons filled with threatening nasties, incredibly tricky traps and surprises galore, all with the accompaniment of eerie sound effects and spooky graphics.

Dungeon Master started it all, and it was written on an ST. Why shouldn't *Eye of the Beholder* join it?



John Madden's American Football **Electronic Arts**
Traditionally, American football games have either been text-based and completely dull, or aimed squarely at the hardcore enthusiasts. *JM's AF* changes all that, turning the complex rules of this game into a colourful, fast-moving and exciting sports sim – but retaining all those techie rules and plays that American football fans love. Both graphics and sound are excellent and there's no better way of getting into the Gridiron sport.



Life and Death 2: the Brain **Mindscape**
Like its predecessor, *Life 2* puts you in charge of several delicate operations on some unsuspecting fool – but this time you're concentrating on the most delicate area, the brain. At first just learning how to use the tools and when is a big enough challenge; then once you're *au fait* with them, you can get in there and perform those tricky synaptic terminations and impressive frontal lobotomies. A unique game with real challenge, the least of which is simply keeping the patient alive during the operation.



Secret of Monkey Island 2 **Lucas/US Gold**
If you've played *Monkey Island* you know what to expect. A game packed with a gags galore, genuinely funny ones too for once; bizarre but ultimately logical puzzles; gorgeous graphics for every location; a simple point 'n' click interface (no text typing); and a new music system which changes according to the game's mood. The inventory is now all icon-driven and there are three skill levels, each with completely different puzzles. The adventure brought kicking and screaming into the '90s.

ST games!

by a wealth of other football games which still can't beat *Kick Off 2*. So why should anyone be surprised if ST owners don't want to go out and buy more of the same? Against this, though, strategy games and fresh, original concepts like *Mega Lo Mania*, *Microprose Golf*, *Lemmings* and *Jimmy White's Snooker* have sold like hot cakes. They're new and different, and the charts prove that ST owners do buy games like these in their thousands.

So why should ST owners be deprived of quality games just because we're more discerning? In the box below are ten games we think are likely to be

some of the best ever on the ST, but you're not going to be seeing them – unless we can make the software publishers realise the huge mistake they're making.

Now's your chance to make a difference. On the coupon to the right, fill in the game name, your own name and address and the reason why you want the game converted. Then cut it out (or photocopy it if you don't want to damage your copy of *STF*), pop it in an envelope, add the address of the relevant publisher, add a stamp, drop it in a postbox and see what happens. We'll keep you informed.

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Put pen to paper and let the software publishers know what you think!

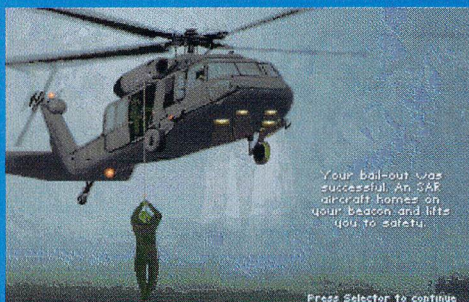


Eye of the Beholder 2

SSI/US Gold

It's even better than its predecessor, with a bigger playing area, more to do (the puzzles are close to hellish), weirder graphics (and more of 'em), and enough gameplay to keep you up nights for months on end. This is the *Dungeon Master* concept taken beyond your wildest dreams.

The programming techniques behind these games are fairly straightforward and there's no reason at all why the transition to the ST should be anything but painless.



F-117A STEALTH FIGHTER

Microprose

The sequel to *F-19 Stealth Fighter*. Again this is a case of bigger, better, more. This flight sim offers you the chance to fly a real-as-possible F-117A or a more stylised version with fictional but very useful weaponry. Theatres of war include fictional scenarios (Korea in 1997) or very real ones (Kuwait, 1991). Either way your job is to remain as stealthy as possible while taking out strategic targets. Superb graphics, in-depth gameplay (with beginners options) and heaps of tasteless violence.



Secret Weapons of the Luftwaffe

US Gold

A superb Lucasfilm recreation of dogfighting during the Second World War. A flight sim which encourages fighting rather than flying, it features all the "great" planes of that era, including some German ones that never actually flew. As you'd expect from Lucasfilm, graphics and sound are excellent and there are plenty of campaign options, including of course the ability to play the Hun. Not easy but worth getting into – it'll last for years.



Sim Ant

Ocean/Maxis

Weird. In *Sim City* you had the chance to build and maintain a city. In *Sim Ant*, by the same authors, Maxis, you build and maintain an ant colony in someone's back garden, with the eventual aim of taking over the house by making your ants intelligent enough. This is no mean feat. Along the way you need to build the colony, organise the worker ants, ensure there's enough food for them all and generally keep things ticking along.

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LOMBARD



Just what you want?

You've just invested in another issue of *ST FORMAT*, but is it what you want to see? To find out, we ran a survey appealing for your views. Here's what you thought and what we're going to do about it

Many thanks go to everyone who returned the questionnaire. Over 1,000 of you responded and we spent almost an entire month collating and analysing the information gleaned from your responses.

Since we ran our reader survey in the February issue of *ST FORMAT*, you may have noticed some subtle changes in the magazine's content. We've replaced our old Desktop section with ST Answers (on page 66 this month) and introduced a brand new mini-reviews section, giving us the opportunity to review many more hardware and software packages for your ST. This month has also seen the kick off of a Buyer's Guide section – page 165. We're going to be running this section in all future

issues of *ST FORMAT* so that you can see the packages vying for your cash – and details of what we thought of them. These three new sections have been introduced as a direct result of your questionnaire replies.

But who are all you people who read *ST FORMAT*? Well, it seems that 97% of you are male – no surprises there, though more women ought to find out what they're missing – come on, get your girlfriends in on the act. 58% of you are over 19 years old, suggesting that you don't see the ST as a kid's toy. When it comes to spending power, 35% of you earn over ten grand a year, which is pretty close to last year's figure – suggesting that the recession certainly isn't biting you too severely. 88% of you expect to spend

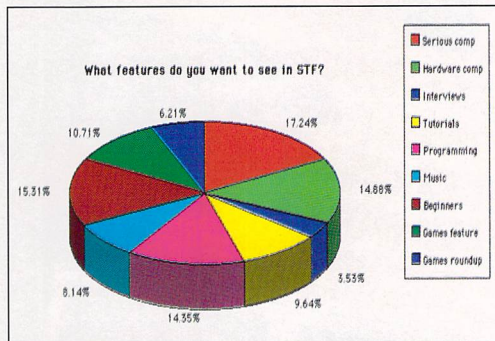
at least some of your income on games in the coming year.

Turning to the machines you own – the double-sided 520 ST wins, with 41% of you owning a 520 ST compared to 52% last year. The 520 STE has seen a massive rise in popularity from 14% last year to 21% this year. But the most astonishing result is that 20% of you now own the 1040 STE compared to just 4% the year before. It looks as if you're desperate to get your hands on all that extra memory. 42% of you have bought memory upgrades, compared to 25% of you a year earlier. To help you boost your ST's memory capacity, we're running a feature next month showing you step-by-step how to install extra memory and then looking at the things you can do when you've got it.

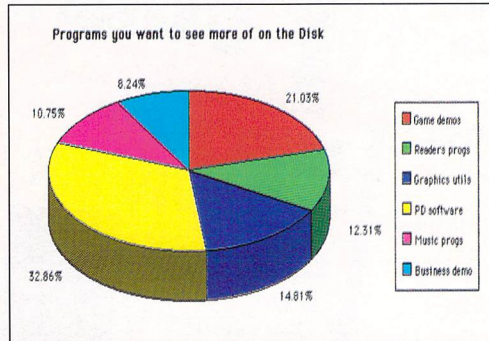
Your views on the content of STF were very encouraging. Most of you want either more or the same amount of everything. 67% of you wanted to see more Cover Disk pages, so we've obliged this month. Two Cover Disks and a six-page guide to each should do the trick – starting on page six. Education has been a topic which has been

concerning us of late. 38% of you wanted to see less education in the magazine, so we're going to incorporate the education section into our mini-reviews from next month. Our Public Domain section also has a healthy following, with 51% of you wanting the section to be bigger. This month we've reviewed and rated over 30 PD programs, beginning on page 40, and we're going to bring you even more next month. 46% of you wanted more ST tips, which is why we decided to start ST Answers. 39% of you wanted to see a bigger Feedback section – we've got four pages this month, beginning on page 147. Is that enough?

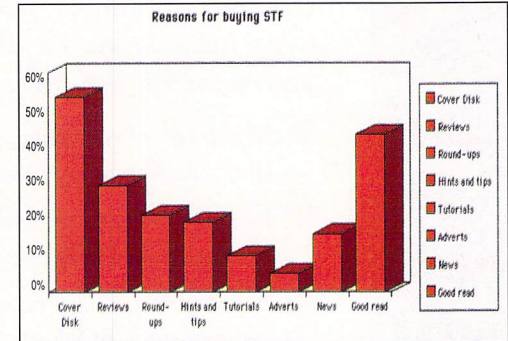
In the Feedback pages each month, we run a regular coupon asking for your opinions of *ST FORMAT*. Please take the time to fill this in and return it to us (postage is free) – we read every single one and your comments help us tailor the magazine to make sure you get all you want. If you don't want to fill out the coupon, just write to the Editor, Feedback, *ST FORMAT*, 30 Monmouth Street, Bath BA1 2BW to express your thoughts. **stf**



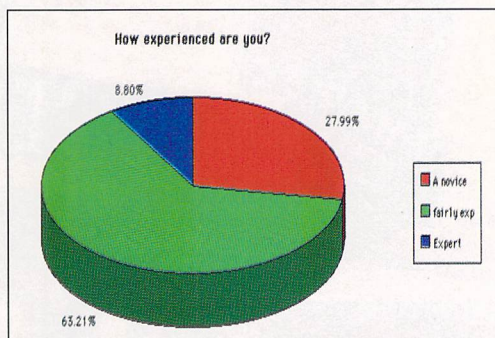
● **What features do you want to see in *ST FORMAT*?** Serious software and hardware comparisons came out top, so we've added our new mini-reviews section. You also wanted beginners' advice and help – our regular Beginner's guide and our ST Answers section should fill the bill. For programming fans, we're introducing a fractals programming series next issue.



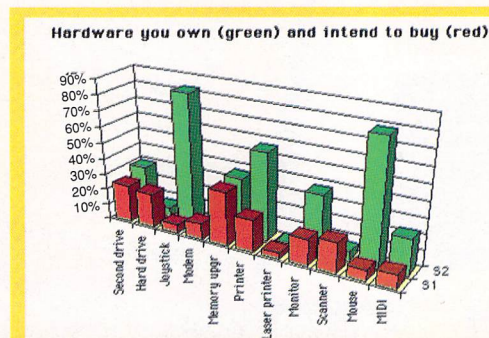
● **You all love our Cover Disk, with 62% of you saying the Cover Disk is your main reason for buying the magazine. We asked what programs you would most like to see on the Cover Disk and this is how you would divide the Disk contents. Next issue, to tie in with our programming feature, we're giving you *GFA Basic v3.7* on the Cover Disk, as well as another extra Disk!**



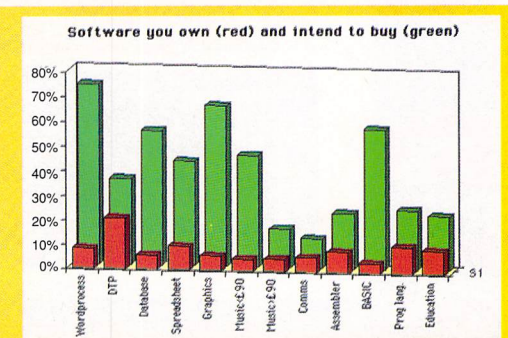
● **Your two main reasons for buying the magazine: for the Cover Disk and for a general good read – followed by our reviews of software and hardware.**



● **Just on 9% of you claim to be real ST experts, while a massive 63% of you regard yourselves as fairly experienced. We'll keep bringing you the information you need to get to grips with all aspects of your ST.**



● **Here's the hardware you own or intend to buy in the coming year – unsurprisingly, almost all of you have a joystick and a mouse. Memory upgrades should sell well in the coming year if this is anything to go by – but make sure you read next issue's guide before you splash out! Right: the software you own or intend to buy.**



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PC Format, PC Answers...**



Disk covered!

After printing a guide two months ago to every feature that's ever been in *ST FORMAT*, we thought we'd bring you an index to what's been on each and every one of our Cover Disks. Clive Parker does the honours

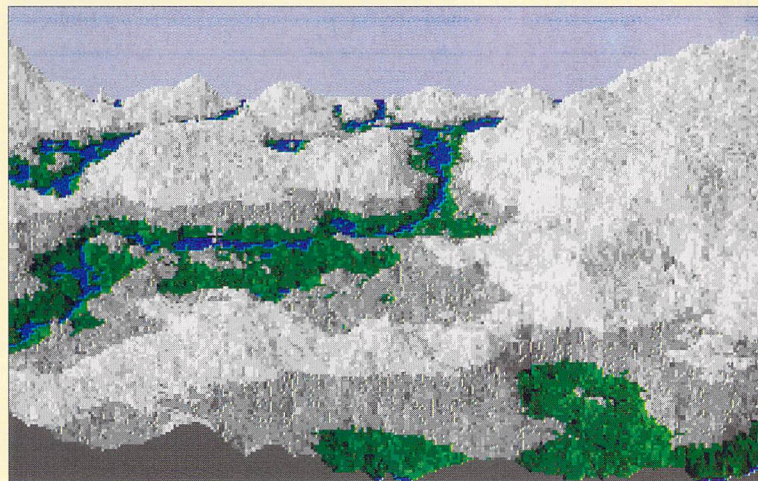
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● You can generate fractal landscapes to lose fell walkers in using the *Fractal Mountain* program on *STF* Cover Disk 28. Make sure you jot down the number of the RAF mountain rescue team before you start out on any jaunts.

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● Ooer, watch those beasties in our exclusive playable demo of *Gods* from the Bitmap Bros on Cover Disk 21.

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● In line with *ST FORMAT*'s policy of bringing you only the best programs, we scooped a working demo of *Stereo Master* in issue 31. Note the vacant expression on Clive's face as his head begins to melt in shock at the wonder of it all.

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THE STF COVER DISKS

Each month we endeavour to bring you the best possible programs on our Cover Disk, often tied in with features inside the magazine, like this month's 3D modelling program and step-by-step guide on page 48. For details of this month's programs, turn to page 6.

Don't buy a High Res Monitor

until you've checked out The Monulator, an incredible new software utility which turns any TV or monitor into a monochrome monitor capable of displaying every single pixel of the ST's superb High Resolution screen.

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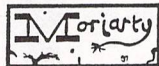
The Monulator is also compatible with the entire Atari ST range, from the 520 STFM to the Mega STE!

ATTENTION USERS OF P. D. MONO EMULATORS

Does your current mono emulator run slower than a soporific snail? Are you fed up with having to decide everything at boot-up? Can your eyes take much more of the fuzzy icons and unreadable text? MORIARTY SOFTWARE has the answer: THE MONULATOR!

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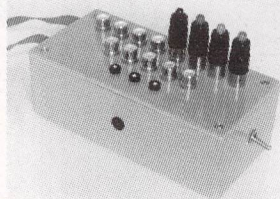
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ST Format rated 87% Latest release now Version 1.85

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STF SPECIAL

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In January's special issue of *ST FORMAT*, we gave away a unique version of Gajits' *Sequencer One*. It has all the useful MIDI features of the original *Sequencer One* plus a special sound-chip editor, so it can be used with any ST – even if you don't have any MIDI gear connected. STE owners can hear their musical creations in stereo, thanks to support for the STE's enhanced music capabilities. The issue included a free "Get You Started" supplement to help you get going. If you missed all this, turn to page 62 to order your copy of the issue.

To make sure you get the most out of *Sequencer One* we're offering special deals on other associated packages. For even more features, you can invest in Gajits' latest upgrade – *Sequencer One Plus*. Then there's the Sample Series, which gives you a set of samples you can load into *Sequencer One* (or *Sequencer One Plus*). The Hit Kit enables you to start writing your own professional drum tracks and bass lines.

Don't miss these special offers – start making the most of *Sequencer One* now!

SEQUENCER ONE PLUS UPGRADE KIT

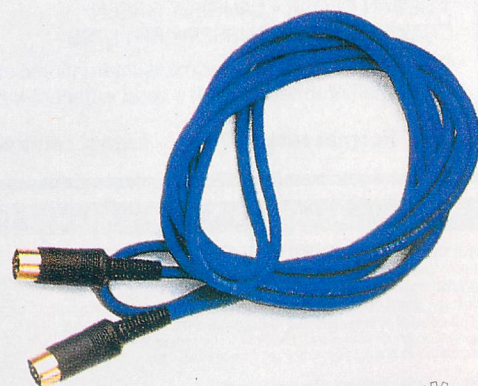
GAJITS MUSIC SOFTWARE

Don't miss out on this incredible offer! Upgrade to *Sequencer One Plus* for a host of extra features including the unique Juke Box screen and Gajits' new *Diamond Drag* note editing system. Also includes: improved sample playback, support for the Microdeal range of sample replay hardware, tempo maps, auto count in, MIDI sys ex handling, track solo, extra quantize options, and much more! All of this will sell for £129.95 (RRP). For a short time only, *Sequencer One Plus* is available as an upgrade kit for *Sequencer One* owners (that includes all Cover Disk owners) at just £49.95 (RRP). We're offering it to you at a mere £39.95 – an amazing total saving of £90!

DESCRIPTION: *Sequencer One Plus*

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Sequencer One PLUS



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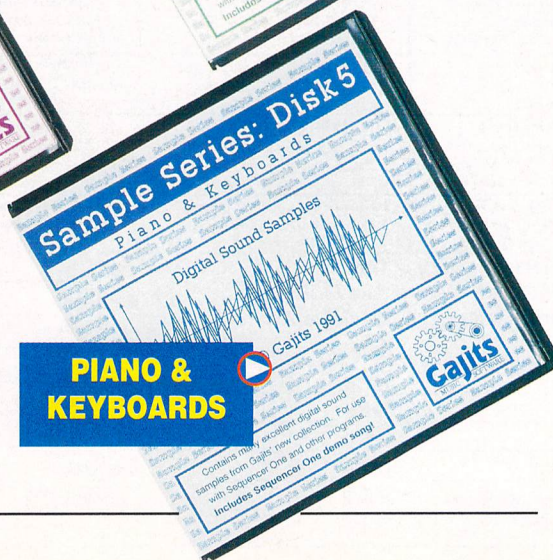
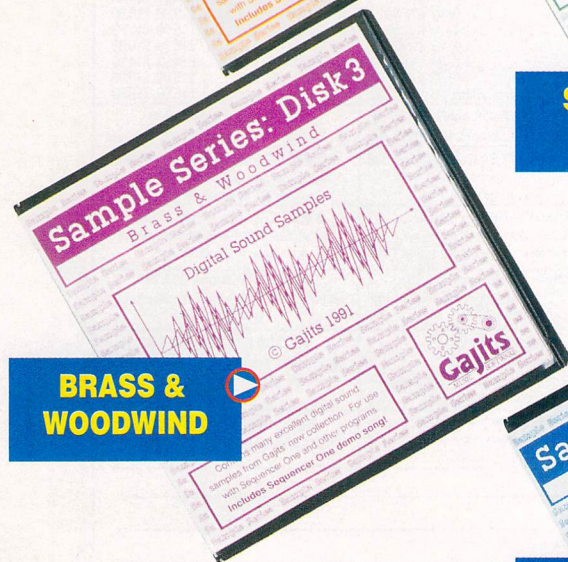
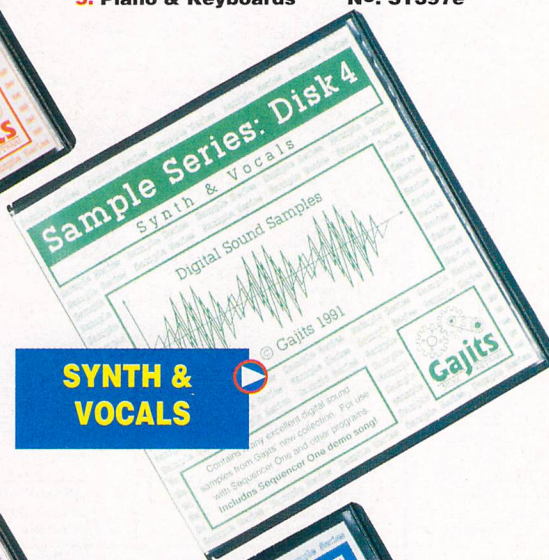
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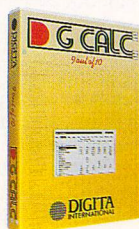


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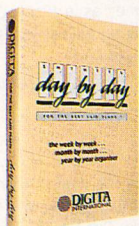
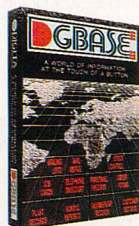


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System 3

A suite of programs which perform all the basic functions for a small business. They may be used independently or integrated and include Cashflow Controller, Stock Control and Invoicing and Statements. **£59.99**



System 3e

Like System 3, but with extended capacity for customer accounts and stock items. **£79.99**

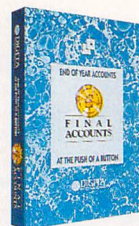


Cashbook Controller

Take the drudgery out of book keeping as this program will replace your cash and petty cash books. In addition to recording cash, bank and VAT transactions, you can enter credit sales and purchases, and for all these entries the program will automatically complete double entry routines, to ensure your records are always in balance. **£59.99**

Final Accounts

Using the information created with Cashbook Controller, this program will produce a complete set of accounts, including Trial Balance, Trading and Profit and Loss Account, Balance Sheet, as well as useful accounting ratios. **£39.99**



Cashbook Combo

A money-saving combination pack containing Cashbook Controller and Final Accounts. **£79.99**



Wordworth®

The graphical nature of Wordworth makes producing documents faster and easier. With the enhanced printing fonts, Collins Spelling Checker and Thesaurus, no other word processor comes close (Amiga). **£129.99**

The Digita range is available for Commodore Amiga, Atari ST and IBM PC unless stated otherwise, and every program comes with a seven day money-back guarantee.

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MUSIC

Musicians the world over use the ST to create their masterpieces. As a result, there's a wide range of professional packages which have spawned a healthy selection of lower end-of-the-range programs ranging from straightforward sound-sampling to MIDI sequencing. To create music using MIDI, you need to invest in a MIDI device like a keyboard. These can be expensive, so low cost solutions like sound samplers and sequencers are available. They usually comprise a hardware cartridge for "grabbing" the sound in the first place and a software package to manipulate it. Besides specific music programs, there are also related programs like scorewriting packages.

Band in a Box Professional £69.00

Zone Dist ☎ 081 766 6564
This reasonably-priced sequencer program generates auto-accompaniment to match your own song creation in a range of styles and tempos. Instant karaoke!
Reviewed: 29, 30 STF Rating: 94%

C-Lab Creator v3.1 £330.00

Sound Tech ☎ 0462 480000
This top-of-the-range sequencer is not cheap, but it might be worth its weight in gold if it helped you produce a hit – many pros and studios use it.
Reviewed: 20 STF Rating: 92%

C-Lab Notator Alpha £225.00

Sound Tech ☎ 0462 480000
The cut-down version of the £499.00 Notator,

this sequencer excels at producing printed score sheets of your ST-created music.
Reviewed: 23 STF Rating: 85%

C-Lab Notator £550.00

Sound Tech ☎ 0462 480000
This up-market version of Creator enables you to sequence your MIDI music and then produce professional quality printed score sheets, or even import these as IMG files into a DTP for photosetting.
Reviewed: 30 STF Rating: 92%

Chameleon £89.00

Keynote ☎ 0761 32610
A very useful Desk Accessory for those MIDI maniacs with more than one synthesizer, this Librarian program can upload, download and store all your voice data for any make of synth. Update due soon.
Reviewed: 7, 12 STF Rating: 85%

EditTrack Gold £116.32

Atlantic Audio ☎ 071 272 8944
This great value sequencer is so flexible, no two musicians use it in the same way. Can handle pattern based or linear based sequences, and has graphic editing.
Reviewed: 30 STF Rating: 86%

Fractal Music Composer £65.00

Fractal Music ☎ 081 766 6564
Fractals are mathematical formulae which can create unusual visual patterns – this program harnesses them to assist in the production of music and saves them as MIDI files from which you can replay it or carry out edits.
Reviewed: 28, 30 STF Rating: 85%

Freestyle pro £179.00

Zone Dist ☎ 081 766 6564
Another auto-accompaniment sequencer like *Band In A Box*, but not as accomplished and much pricier.
Reviewed: 30 STF Rating: 76%

MIDIstudio Master £99.99

Ladbroke ☎ 0772 203166
A well-received challenger to the expensive sequencers, this has many powerful features but suffers from one or two annoying little glitches.
Reviewed: 30 STF Rating: 91%

MusiCAL £39.95

Evenlode ☎ 0993 898484
A music teaching program that takes the student through a range of activities using both MIDI and the ST's own sound chip. Ideal for schools.
Reviewed: 11 STF Rating: 90%

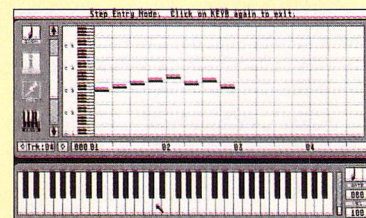
Quartet £49.95

Microdeal ☎ 0726 68020
The simultaneous playing of four samples is possible with this software. Many samples are available enabling you to compose songs and play them with realistic-sounding voices. *Quartet 2* is coming soon.
Reviewed: 5 STF Rating: 94%

Sequencer One Cover Disk 30

Gajits ☎ 061 236 2515
This is a 32 track sequencer with a high level of recording accuracy and resolution. Sequencer One comes with a full sound chip editor which means you can play music through any ST, but if

you do have some MIDI gear, you can really exploit its advanced music features.
Reviewed: 8 STF Rating: 91%



● Sequencer One from Cover Disk 30 is extremely easy to understand and use.

Steinberg Cubeat £295.00

Evenlode ☎ 0993 898484
The more affordable version of *Cubase* – the £500-plus sequencer. Excellent visual editing, intuitive operation and a good manual make this a good pro package.
Reviewed: 17, 30 STF Rating: 89%

Trackman 2 £99.95

Hollis Research ☎ 0481 728286
Amazingly highly scoring sequencer, fast, powerful, yet easy-to-use and packed with features. An optional foot pedal helps you to control it.
Reviewed: 22 STF Rating: 97%

Virtuoso £299.00

Digital Muse ☎ 071 828 9462
By not using GEM, this British sequencer achieves great speed of operation with fast machine code.
Reviewed: 3 STF Rating: 88%

UTILITIES

There are certain programs you just can't afford to be without, programs which make using the ST more of a pleasure than a chore. These nifty bits of software range from useful Desk Accessories which can save time switching from program to program, to disk recovery programs – invaluable for salvaging seemingly lost data from corrupted disks. Other programs are necessities – *UVK* should be in everyone's collection, and once you've used *Neodesk 3* you'll wonder why Atari didn't do the Desktop that way to begin with.

3D Constr'n Kit £39.99

Domark/Incentive ☎ 081 780 2222
Features a fantastic and versatile range of tools for creating 3D games of your own. Comes close to DIY Virtual Reality. Manual and VHS demo video provided, too – if you actually watch the video, you'll find this dead simple to use.
Reviewed: 24 STF Rating: 95%

Art Tutor £19.95

Castlesoft ☎ 0333 421243
An unusual package that teaches you to draw, on both the ST and on paper using a workbook type manual and three disks of exercises and programs. Good results are possible if you stay the course.
Reviewed: 21 STF Rating: 73%

Astronomy Lab £19.95

ST Club ☎ 0602 410241
Study the night sky at any date in history and from any location on Earth, all on your monitor screen! A first rate program, with a large manual to teach you all about astronomy. Has no competitor.
Reviewed: 9 STF Rating: 90%

DC Desktop £21.00

Softville ☎ 0705 266509
This "alternative" Desktop enhances and improves on the bog-standard Atari one by enabling you to add the features you want with various modules, but it's not as good as NeoDesk.
Reviewed: 21 STF Rating: 71%

DC Utilities £21.00

Softville ☎ 0705 266509
This collection of nine programs is a suite of useful utilities, file compactors, RAMdisks, screen grabber and so on. Comes with a good printed manual, superior quality PD.
Reviewed: 21 STF Rating: 85%

Flexidump Plus £39.95

Care/Zitasoft ☎ 0923 672102
Flexidump enables you to make user-defined size printer-dumps of *Degas*, *Neo* or *Tiny* pics. Very comprehensive manual via on-screen help. This version works on mono and colour printers.
Reviewed: 21 STF Rating: 84%

Fontkit Plus 3 £19.95

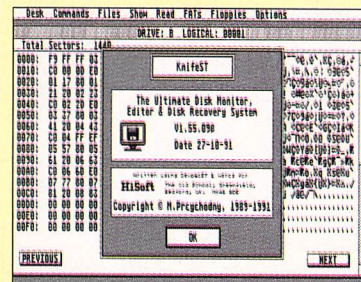
ST Club ☎ 0602 410241
This program by Jeremy Hughes is the best all-round Font Editor for the ST. Always being improved with numerous excellent features. Load in fonts of various formats and convert, edit and adjust them to suit.
Reviewed: 20 STF Rating: 90%

Harlekin 2 £59.95

Hisoft ☎ 0525 718181
The ultimate Desk Accessory – with this installed, you have access to many valuable utilities including a text editor, comms package, RAMdisk, macros, and a comprehensive manager/calendar module.
Reviewed: 27, 31 STF Rating: 92%

Knife ST £34.95

Hisoft ☎ 0525 718181
A powerful programmer's tool. Using *Knife* you can cut deep into the innermost depths of your ST's disks, sectors, FATs and so on and generally hack your way around, altering and recovering data.
Reviewed: 31 STF Rating: 86%



● Knife ST is the ultimate disk/editing tool, enabling you to recover valuable data from your disks if the message "the disk in drive A may be damaged" comes up. It's brilliantly designed, easy to use and a real life saver.

Mission Control £20.00

GFA ☎ 0734 794941
Of interest to serious programmers, this shell program can control and co-ordinate the various GFA language programs, launch applications and the like.
Reviewed: 12 STF Rating: 79%

Multidesk £29.95

Atari Wkshop ☎ 0753 832212
Gets round the problem of only being able to have six Desk Accessories available at once by enabling you to load or remove up to 96 Accessories at once if you have the memory, with no

re-booting necessary. Favourite Accessory setups can be saved for future use.
Reviewed: 5, 31 STF Rating: 80%

Neodesk 3 £39.95

Electric Dist ☎ 0480 496666
This truly excellent replacement Desktop utility makes the Atari GEM Desktop everything it should have been. Particularly useful for hard disk owners – multifarious features including the ability to drag files onto the Desktop for instant access, individual icons for specific programs, improved file handling, extended formatter and thousands of life enhancing improvements guaranteed to ensure your everlasting fidelity to *Neodesk 3*.
Reviewed: 18, 31 STF Rating: 94%

Shoot 'Em Up Construction Kit price to be confirmed

Gremlin ☎ 0742 753423
This easy-to-use games creation program enables you to make your own shoot-'em-ups, complete with sprites, music and sound effects.
Reviewed: 4 STF Rating: 86%

Ultimate Virus Killer £9.99

Douglas ☎ 061 456 9587
Virus killer general Richard Karsmakers has written one of the best programs of its kind. A working demo version was on Cover Disk 26, the full version has even more features.
Reviewed: 31 STF Rating: 91%

Universal Item Selector £19.95

ST Club ☎ 0602 410241
Okay, you can get PD alternative fileselectors for free, but *Universal Item Selector* is the king. With the special Desk Accessory provided, you can call it up at any time for disk copying, file erasing, and other operations. Indispensable.
Reviewed: 5 STF Rating: 90%

ART AND GRAPHICS

With a palette of 512 colours on the ST and a palette of 4,096 on the STE, it's hardly surprising that art software has boomed ever since the first days of the ST. All of those listed here, except *Retouche*, come with the basic tools – different brush sizes, an airbrush tool, cutting, pasting and magnification. If you've got an STE, try to make sure your art program supports the extra colours like *Canvas* does, which we gave away on Cover Disk 30.



● The best value art package around by a long way since it was yours with Cover Disk 30. *Canvas* has a wide range of the usual functions, as well as some obscure ones like a 3D modeller.

Canvas Cover Disk 30
Microdeal ☎ 0726 68020
A fully featured graphics package with support for the STE's enhanced graphics capabilities. A

clever 3D modelling section enables you to create 3D shapes and use them in your own pictures.
Reviewed: 9 STF Rating: 94%

Cyber Paint 2 £49.95
Electric Dist ☎ 0480 496666
A drawing package with all the features of other graphics packages. Includes a unique animation section enabling you to define the start and end of an animation and then leave your ST to work out the intermediary frames.
Reviewed: 24, 30 STF Rating: 88%

Cyber Studio £49.95
Electric Dist ☎ 0480 496666
A 3D modelling studio comprising a set of programs enabling you to create your own 3D objects and then illuminate them from a variety of angles and in different shades.
Reviewed: 30 STF Rating: 79%

Degas Elite £25.99
Electronic Arts ☎ 0753 549442
One of the original ST graphics packages and still highly praised. A good budget package with all you need to create standard pictures. No support for the enhanced palette of the STE.
Reviewed: 30 STF Rating: 90%

Deluxe Paint £59.99
Electronic Arts ☎ 0753 549442
Has all you need to create pictures but it's not as straightforward to use as packages like

Degas Elite because of the awkward layout of its menus. Limited animation techniques are possible and has some interesting techniques like Bezier curves and stencilling. Support for all the STE's 4,096 colours. Special effects can help produce Impressionist or Cubist atmospheres.
Reviewed: 15, 19, 24, 30
STF Rating: 88%

GFA Draft Plus 3.0 Cover Disk 34
GFA £100 ☎ 0734 794941
A sophisticated 2D drafting package to help you plan everything from a spacecraft to the look of your bedroom.
Reviewed: 19 STF Rating: 90%

GFA Raytrace Cover Disk 6
GFA ☎ 0734 794941
Do you want to give your pictures a new realism? The technique of raytracing enables you to simulate the effect of light hitting solid surfaces. It's this technique which is used to generate those shiny balls in so many PD demos.
Reviewed: 3 STF Rating: 78%

Outline Art £79.99
Halco ☎ 0734 441525
If you want to get the best out of *Calamus*, the DTP program, *O Line* enables you to generate fancy logos by manipulating existing fonts and pics to give curved and 3D type effects. V2 of Outline Art is out for the new colour *Calamus SL* program.
Reviewed: 6 STF Rating: 95%

Paintpot £14.95
Switchsoft ☎ 0325 464423
This must be one of the easiest-to-use art programs for the ST. Although it lacks any animation features, it has a few unique capabilities and it is STE compatible.
Reviewed: 9 STF Rating: 76%

Quantum Paint 2 £14.99
Eidersoft ☎ 0234 273000
Using some very clever techniques this drawing program enables you to have up to 4,096 colours in your pictures. Unfortunately, it's slow and difficult to use.
Reviewed: 4 STF Rating: 79%

Retouche £175.00
CopyCare ☎ 081 686 8121
A retouching program for use with scanned images. Instead of the usual drawing tools, you have functions like charcoal, brush and water which act the same way as they do in real life. Block, zoom and masking functions can be used to alter small areas of the image. High res only.
Reviewed: 21, 30 STF Rating: 81%

Trip A Tron £34.95
Llamasoft ☎ 0734 814478
Not an art program in the traditional sense, but it certainly enables you to create some mind-teasing kaleidoscopic patterns. Using its own programming language, you can create cosmic colourful creations.
Reviewed: 24 STF Rating: 91%

WORD PROCESSORS/EDITORS

There are probably more word processors around for the ST than any other sort of program. The one you need depends on the sort of text processing you do: if you need fast bulk text entry, *Protext* is your best bet, but for fancy fonts and WYSIWYG layout, go for *Write On* or *Wordflair*.

First Word Plus £81.68
GST Software ☎ 0480 496789
The upgrade to the PD *First Word* word processor, these have become almost the "standard" WPs for the ST. A fairly capable program, stable and well supported, but lacking some of the flashy features now found in the newer packages.
Reviewed: 22, 31 STF Rating: 83%

K-Word 2 £41.00
Kuma ☎ 0734 844335
One of the cheapest WPs, showing its age a bit, but compatible with the Kuma range of business programs. Uncomplicated.
Reviewed: 28, 31 STF Rating: 76%

Protext 5.5 £152.75
Arnor ☎ 0733 68909
This latest upgrade adds a Collins Thesaurus with 43,000 entry words and a massive 827,000 responses to its armoury. Plus a stack of new features to give you more power than you will probably ever want. Superb printer support and the ability to mail merge from *Prodata* makes this a worthwhile upgrade. Doesn't quite give you on-screen what you're going to get on paper.
Reviewed: 28, 31 STF Rating: 95%

Tempus 2 £39.95
Hisoft ☎ 0525 718181
An incredibly fast GEM based text editor, this program can work on up to four files at once, and compare them. Really of use to programmers, but contains some word processor-like features.
Reviewed: 3 STF Rating: 78%

That's Write £99.99
Compo ☎ 0480 891819
Fast gaining friends, this multi-fonted word pro-

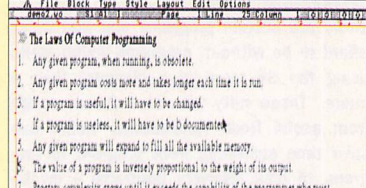
cessor is not only easy-to-use, but is very powerful. It can import pictures, and is capable of virtually DTP-quality output. V2 just released.
Reviewed: 3, 22, 31 STF Rating: 82%

Word Writer £43.43
GST Software ☎ 0480 496789
Related to *First Word Plus* in style and content, but includes many normally expensive options like a Thesaurus and an Outliner. Imports text from other sources.
Reviewed: 22, 31 STF Rating: 86%

Wordflair £59.95
Hisoft ☎ 0525 718181
A word processor with an unusual range of additional features like a database and the ability to do statistical calculations and produce charts. No spelling checker, though.
Reviewed: 22 STF Rating: 87%

Write On Cover Disk 33
Compo ☎ 0480 891819
This new WP offers upmarket DTP-type features at a budget price. You are not limited to one

font either – several are provided and you can import others from various sources. Highly recommended.
Reviewed: 22 STF Rating: 90%



● The multi-font word processor *Write On* was yours with STF 33. You can include graphics in your documents.

Redacteur 3 £119.00
ST Club ☎ 0602 410241
This recently released french WP is the first real challenge to *Protext* in terms of speed and power. Uses GEM and can import a wide range of pics in all formats, multiple fonts too. Formidable.
Reviewed: 34 STF Rating: 90%

DESKTOP PUBLISHING

To give your words a professional look, you need to present them in the right way. Using desktop publishing programs, you can take words created in a word processor and lay them out in an eye-catching and imaginative manner. DTP programs are used to design the pages of magazines like these, to create letter headings, posters, party invitations, flyers and more besides. The more advanced DTP programs like *PageStream 2* can import colour screen pictures and use these in your pages. Inevitably, the quality of the printout depends on the quality of your printer. All DTP programs print pages using the graphics features of a printer, so for the best quality output you need an inkjet or laser printer.

Calamus £139.95
Halco ☎ 0734 441525
The first DTP package aimed at high-end publishers. This mono only v1.09 has all the usual features plus the ability to run text around odd-shaped pictures and extensive text editing features. You need at least 1MByte of RAM to run it as well as a high resolution monitor. A new colour version has just been released.
Reviewed: 6, 30 STF Rating: 90%

Calamus SL £587.50
Halco ☎ 0734 441525
The long awaited colour version of *Calamus* is now available, and it improves on the capabilities of v1.09 plus supports colour separations as used for professional page layout. Very memory intensive, and a hard disk is necessary for large colour images.
Reviewed: next month

Easy Text Plus £20.00
zzSoft ☎ 0254 672965
The cheapest DTP program on the market. It lacks the frills of its big brothers, but is still a worthwhile introduction to desktop publishing. A demo of *Easy Text Plus* is available from the Public Domain, check our listing of libraries on page 44.
Reviewed: 30, 31 STF Rating: 68%

Fleet Street Publisher 3 £204.30
Silica ☎ 081 309 1111
Has all the features – including picture runaround, graphics commands and image import functions – that you'd expect from a high-end desktop publishing package, though it's not easy to use. Capable of superb printing using the Ultrascript module. Overpriced.
Reviewed: 6, 28, 30, 31
STF Rating: 76%

PageStream 2 £169.00
Soft-Logik ☎ 081 309 1111
The first ST DTP package to support colour pictures – easily the best value and most versatile package available at the moment. Picture runaround, text handling facilities and a wide range of picture formats supported. Produces excellent output even on the lowliest dot matrix printer because of its font scaling technology.
Reviewed: 28, 30, 31 STF Rating: 95%

Timeworks Publisher 2 See page 46
Electric Dist ☎ 0480 496666
The follow-up to *Timeworks DTP*. To run text around pictures, simply define your own outline around the image and the text flows around it. No support for colour. Easy to use, good printer support. Pretty quick compared to other ST DTPs when it comes to screen redrawing.
Reviewed: 32 STF Rating: 88%



FOOTBALL TACTICIAN

Until now, football simulations came in two categories: arcade and management. Few, if any, ever bothered with the all-important STRATEGY which a successful manager is to master, both before a match when deciding on squad selection, and during the match when high-drama, real-time decisions must be made on tactics, substitutions, set pieces and player deployment. But now, for the first time on any major computer, there is a superlative management game that encompasses all forms of soccer strategy: it is called **FOOTBALL TACTICIAN**.

Team selection, needless to say, remains a critical element in any successful campaign: and here you will be aided with a wealth of player data, never seen in any soccer program before. Gone are the days when a player was given a single skill level. Each player is now analysed in up to 20 different aspects, enabling you to select the side best suited for the match in hand. And then to the BIG innovation of **FOOTBALL TACTICIAN**: full on-line, real-time involvement during the match! For the first time ever, you will, as a manager, be able to alter your strategy: choose a defensive or offensive system, mark certain opponents, drop back some of your players if the pressure is tough, decide exactly when substitutions should be made, play the off-side trap, go for quick counters, etc... With full on-screen commentary and minute-by-minute feed-back, you're as involved in the match as any of your players! When you further consider that this game is written in 100% machine code (unlike scores of other slow-motion offerings which are written in basic), that up to twenty two users can play this game at the same time, that accurate records are kept on all 440 players in the first division, right down to their exact market valuation, that a built-in editor allows you to change any player's or manager's name, you will realise that this is no ordinary soccer manager. **THIS** is the REAL THING. You're in charge. You manage your side before and during the match. Nothing is left to chance. Can you rise to the challenge? Try **FOOTBALL TACTICIAN** and prepare yourself for the ultimate football experience.

Amongst the many features: intelligent computer behaviour, lively transfer market, ability to replay ANY match of the week with full commentary, three levels of commentary from highlights only to every single ball challenge with all players named, ability to retrieve any fixture from the last 21 seasons, top scorers chart, friendlies, speed control, twenty player squads including the VERY LATEST transfers right up to this very week, full European Cups program with every single European player accurately named, selectable positions, automatic and intelligent substitutions by computer opponents based on player fitness, fatigue and tactics used; computer opponents will automatically change tactics to respond to situation on the field, ability to utilize to full advantage any extra memory fitted, and many more!



FREE UPDATES OFFER! Because Talking Birds are committed to providing the most up-to-date football manager ever, purchasers of **FOOTBALL TACTICIAN** will receive free update disks for a whole year! As players are transferred, injured or revalued, as managers are sacked and teams promoted or relegated, it is essential that up-to-date data disks should be made available to the serious user. Beyond the first year period, this service will be available as an optional extra.

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HARDWARE

EMULATORS

As you know, the ST is a great machine, but occasionally through necessity you might want it to be another sort of machine entirely. Perhaps you use a PC at work and need to have one at home, too. Easy – a PC emulator tucked away inside your ST can transform it into a fairly powerful PC at much less than the cost of buying a separate machine. And with a Spectre GCR you can have a Macintosh Plus which is actually faster than the real thing for a fraction of the price.

AT Speed C16

Compo £249.00
☎ 0480 891819
First came *PC Speed*, then the faster *AT Speed*, and now *AT Speed C16* gives you super-fast emulation of the IBM PC, enabling you to run the latest Windows software with aplomb. Supports all screen resolutions up to VGA and offers 640K of free RAM on a 1MByte ST.
Reviewed: 25 STF Rating: 82%

ATonce/ATonce plus

Silica £199/£219
☎ 081 309 1111
These 16-bit 80286 emulators may require soldering into place – Silica can fit them if required.

They come with good system software, and the Plus model runs at a faster 16MHz.
Reviewed: 25 STF Rating: 85%

PC Speed

Compo £99.00
☎ 0480 891819
This is a budget-priced PC emulator based on an NEC V30 central processing chip which is installed inside your ST. Without interfering with other upgrades, it enables the ST to run PC software. It also supports floppy and hard drives as well as the PC mouse but isn't actually very quick, though it is a good budget buy.
Reviewed: 4, 25 STF Rating: 74%

Spectre GCR

Ladbroke £409.99
☎ 0772 203166
It seems like magic, and it is! Using this box of tricks – which plugs into the ST's cartridge port – your ST turns into a Mac. Apple's Macintosh computers are the ones used in the publishing and media world, and are favoured by writers and journalists because of their excellent, but expensive, software. Now all this power is available on your ST, but a minimum 2MByte of memory is recommended because of the size of Mac software. There are also some problems likely with reading and writing to Mac disks.
Reviewed: 25 STF Rating: 94%

HARD DRIVES

If you find you're always flicking through a huge collection of floppies just to find one program, it's probably about time you invested in a hard drive. A 20MByte hard drive can store the equivalent of 22 double-sided floppy disks. The advantage is that your ST can read information from a hard drive over three times faster. Hard drives plug into the DMA port on the back of your ST. This is also the same port the Atari laser plugs into. If you intend using an Atari laser with your ST at some point, check you invest in a hard drive which comes with a throughput. Many hard drives come with an a memory cache which speeds up the rate at which you can read and write information.

Atari Megafile 30

Silica £369.00
☎ 081 309 1111
Has a short lead making it difficult to use on a 520 or 1040 ST. Only enough utilities to get you going. Very slow. Unless you're worried about compatibility, there's little to entice you to buy this outdated drive.
Reviewed: 27 STF Rating: 60%

Gasteiner 44R removable

Gasteiner £499.00
☎ 081 365 1151
Uses removable SyQuest cartridges each capable of storing 40MBytes of information. Drive is noisy and slow. A poor manual, but comes with helpful utilities.
Reviewed: 27 STF Rating: 73%

Hunter 70MByte

£359.00 for 70 MByte version
Hunter Business Systems
☎ 0382 581035
DMA throughput. A 64K cache. Drive is very fast and quiet. At the time of reviewing this drive there were problems making it compatible with all ST software, though Hunter now insist this difficulty has been overcome.
Reviewed: 27 STF Rating: 52%

Ladbroke 52MByte

£389.99 for 52MByte version
Ladbroke ☎ 0772 203166
One of the fastest drives available. ICD utilities provided and a helpful manual. 64K cache on the drive. A front-mounted power switch which could be prone to knocks.
Reviewed: 27 STF Rating: 81%

Mega Drive

Gasteiner £269.00 for 32MByte
☎ 081 365 1151
These come in a range of capacities up to 100MBytes, and you can have Seagate, Quantum or NEC mechanisms. Rather big and chunky, but they work well enough and are fully featured.
Reviewed: 17 STF Rating: 88%

Power 40MByte

£329.00 for 40MByte version
Power ☎ 0234 843388
Comes with a write-protect switch on the back, effectively preventing you from writing any information to the hard drive. Noisy. Comes with all

the ICD utilities. Simple to connect up, but no way to change the DMA address.
Reviewed: 27 STF Rating: 77%

Power 40MByte Slimline

£250.00 for 40MByte version
Power ☎ 0234 843388
Slimline model no bigger than a small floppy drive. No throughput to enable you to connect other DMA devices. Noisy in operation. Very inflexible and not for the serious user, but quick and cheap.
Reviewed: 27 STF Rating: 74%

Power 900E Data Injection

£299.00 for 52MByte version
Power ☎ 0234 843388
Exceptionally small and quiet, as fast as much bigger units. Go for a larger capacity if you can – you need it! ICD utility software is supplied.
Reviewed: 17 STF Rating: 85%

Power Drive 900

£399.00 for 40MByte version
Power ☎ 0234 843388
This older model is great value although it's not as small as the newer 900E, but still more compact than most.
Reviewed: 17 STF Rating: 92%

Protar 40DC

£285.00 for 20MByte version
Protar ☎ 0923 254133
Good manual. Easy installation process helped by the excellent explanations. Quiet drive. 64K

cache. Not as fast Ladbroke's. Auto-booting and auto-parking. Good quality manufacture. Short DMA lead provided. Two year replacement warranty.
Reviewed: 27 STF Rating: 90%

Protar 44R Removable

£611.00
Protar ☎ 0923 254133
A removable drive using the SyQuest mechanism used in the Gasteiner 44R. Considering the slow speed of removable hard drives, this one is actually quite fast.
Reviewed: 27 STF Rating: 79%

Reference 40

£299.00 for 40MByte version
Evesham ☎ 0386 765500
Very poor manual, but simple to install. Has a bulky external power supply. No power switch on the drive. DMA throughput. Average speed.
Reviewed: 27 STF Rating: 73%

Vortex 40MByte

£599.00 for 40MByte version
Silica ☎ 081 309 1111
A write-protect switch to protect your information. Instead of auto-parking at power off, it auto-parks the head after a pre-set period without activity – 15 minutes default. It also powers down the motor after about five minutes of no activity. Excellent manual. Smart case. Robust. Near silent drive. Auto-parking heads are difficult to get to grips with. Ineffective caching which is awkward to set up. Generally adequate performance, but expensive.
Reviewed: 27 STF Rating: 68%

MEMORY UPGRADES

But do you really need extra memory? It depends on the uses you put your ST to. For playing games, you can probably get by with a basic model 520 ST, although even some games now need 1MByte of memory. But for business or serious uses like desktop publishing or music sequencing, you really need to have a bigger RAM in your ST. Assuming you already have a double-sided internal disk drive installed, a RAM upgrade should be your next priority. But is it worth going beyond 1MByte, to 2MByte or even 4MByte? Well, you might need to if you want to use large programs, DAs, replacement Desktops like NeoDesk, and also hook up an Atari Laser printer, which needs a minimum of 2MBytes just to control it!

Alfa Data

Gasteiner £99.00
☎ 081 365 1151
Comes as either a 0.5 or 2MByte populated board, we look at the 2MByte which takes any 520 ST to 2.5MBytes. Made in Taiwan, the quality of this neatly-made board looks good, and

suppliers Gasteiner give a two year warranty with it – and also offer an extremely cheap installation service for the timid! You cannot upgrade this board any further, but if 2MByte is enough, it might be one to consider.
Reviewed: 25 STF Rating: 83%

Power 2/4MByte upgrade

£99.00/£169.00
Power ☎ 0234 843388
The memory is housed on a small PCB which plugs into the Video Shifter chip socket, and is linked to the MMU by the usual ribbon cable terminating in another small PCB which plugs onto the MMU chip. Jumper leads are supplied if existing memory needs to be disabled, and the instructions are clear and concise. Extra RAM can be added to 4MByte.
Reviewed: 31 STF Rating: 92%

Aries 2MByte

Ladbroke £99.00/£169.00
☎ 0772 203166
Can be expanded up to 4MByte. The smallest, most compact board on test, the RAM chips reside on a PCB only 61mm long by 51mm wide, and with a total thickness of only 11mm – it easily fits over the Video Shifter chip. The kit

requires the soldering of a number of colour coded leads attached to the board to various locations on the ST's circuit board. Ladbroke can fit it for a small charge.
Reviewed: 25 STF Rating: 84%

Evesham 2MByte

STE: £80.00/STFM: £99.99
Evesham ☎ 0386 40303
This kit uses SIMM chips which means that expanding it to 4MByte later is merely a matter of plugging in two small boards to the empty sockets on it. The RAM board connects to the Shifter and MMU chips via the normal method, and also takes a four way lead from the point which normally powers the internal drive, with an additional lead supplied to link the board to the drive, thus restoring its supply. Jumper cables are also supplied to disable any excess RAM already on board the ST.
Reviewed: 25 STF Rating: 72%

Gigatron

Compo £279.00
☎ 0480 891819
This board is a German product – very nicely made and easy to install. To install this board, the MMU chip is taken out of its socket using

the tool supplied, and the PCB with the RAM chips on it are plugged into its place. The MMU is then plugged into this board, and a ribbon cable links this to the Video Shifter chip, where the usual procedure is carried out, that is, the Shifter chip removed, PCB plugged into its place, chip plugged into PCB. Not the cheapest board available, but it takes you up to maximum memory in one very easy move.
Reviewed: 25 STF Rating: 82%

X-Tra RAM

Frontier £69.99/£159.99
☎ 0423 567140
These boards from Frontier Software are tried and trusted products. The board can be used to provide a 0.5MByte upgrade for any 520 ST, and is expandable to give a maximum memory of 2.5MByte by changing the RAM chips later if you wish. The RAM is on its own board, which connects to the MMU and Video chip via the usual two small PCBs at the end of ribbon cables. Clear instructions and a RAM testing disk are provided. This board is used by many of the RAM installation services, or can be fitted into your ST by Frontier for £40.00 including courier collection and delivery. A new and cheaper deluxe version is now available.
Reviewed: 25 STF Rating: 81%

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FLOPPY DRIVES

There are many times when you need another disk drive – whether you want to backup your software or avoid tedious disk swapping in two-disk games, a second floppy drive is essential. They now come very cheaply, and plug into the back of your ST – no messing around with installation utilities required to set up a hard drive.

CSA 354 Drive

£69.90

We Serve

☎ 0705 325354

Cumana make one of the best drives in terms of quality of build. Uses a Chinon FZ354 mechanism formatted to a maximum of 84 tracks. Heavy construction and well made, complete with moulded-on 13 amp plug. Excellent quality throughout.

Reviewed: 28, 31 STF Rating: 90%

PL720B Drive

£69.95

Power

☎ 0234 843388

The "B" stands for Blitz. A clever drive because you can use it in three modes: on, off and Boot from Drive B. Also comes with a virus blocker mode which prevents data being written to track 0 of a disk. High-speed disk copying is also possible. Uses an Epson SMD 300 drive mechanism and formats to 82 tracks. Ideal if

you want a neat cheap drive.

Reviewed: 28 STF Rating: 89%

Zydec Drive

£54.95

Evesham

☎ 0386 765500

Uses a Citizen OSDC-41C drive mechanism. Can format to 84 tracks but has a higher than average noise output. A poor quality on/off switch.

Reviewed: 28 STF Rating: 80%

PRINTERS

So you've got your ST complete with word processing, graphics and desktop publishing programs, but sooner or later you're going to want to get those masterpieces you have created off the screen and onto paper. To achieve such hard copy you need a printer – the most essential hardware accessory for your ST. But buying the right one can be a daunting task, with dozens of makes on the market and each manufacturer producing many models, there are hundreds to choose between! Humble dot matrix printers are still around, but as the lasers and inkjets get cheaper, their days could be numbered.

BJ-10e

£405.00

Canon

☎ 081 773 3173

Not only the cheapest at under £270 in the shops, but also the most innovative and exciting inkjet printer. Its compactness and portability make it unique. Fast printing comparable to dot matrix speed on text. Splendid printing, solid blacks, no noise, a pleasure to use. Laser printing quality at a price you can afford!

Reviewed: 17, 25, 31 STF Rating: 90%

DeskJet 500

£586.00

Hewlett Packard

☎ 0344 369369

This is probably the most sensible inkjet buy for heavier use, and it's not too dear at about £380 from discount suppliers. Bigger and sturdier than the Canon BJ 10e, but about equal in print quality. The DeskJet machines are generally better supported by ST software, and the in-built auto sheet feeding tray is a bonus – it costs about £50 extra to fit one to the Canon BJ 10e.

Reviewed: 20, 25 STF Rating: 90%

HL4

£1291.00

Brother

☎ 061 330 6531

A compact, attractive machine with a very good range of emulations, it pretends to be a HP Laserjet 2, making it compatible with most software which drives laser printers. Print quality is equal to the Atari SLM 605, but it's not as fast, especially on graphics.

Reviewed: 25 STF Rating: 89%

KX-P1081

£240.00

Panasonic

☎ 0344 853915

A very simple to use printer, and is a good all-round performer despite what appears to be a low specification features-wise. At just under the £135.00 mark in the shops, it's the budget buy of the dot matrix group. The snap-in endless cartridge ribbon gives about the most solid black you could wish to see.

Reviewed: 25 STF Rating: 85%

KX-P1123

£311.00

Panasonic

☎ 0344 853915

Available in the shops for about £185.00, this is the best buy in the 24-pin group, and gives a pretty good all-round performance. This new model is fairly quiet, and is self contained – no bits and pieces to assemble like most printers. Modern styling and design make this printer an attractive option.

Reviewed: 25, 31 STF Rating: 90%

KX-P4420

£1,404.00

Panasonic

☎ 0344 853915

The dearest and biggest laser on test, this is more at home in the office than the home. Although the printed results are very good, and it offers a good speed and range of fonts, the general user unfriendliness of this printer lets it down.

Reviewed: 25 STF Rating: 80%

Laserjet 3P

£1,291.00

Hewlett Packard

☎ 0344 369369

An exciting machine with HP's Resolution Enhancement Technology. This uses smaller-than-usual dots around the outside of parts of the image being printed – thus smoothing out the curves. It achieves this in its internal memory, using of the program you are using. Output is finely detailed, giving clearly the best printed results. Although it comes with 1MByte of RAM onboard, you may need more. Very easy to use, and extremely compact in size. A little beauty!

Reviewed: 25, 30, 31 STF Rating: 91%

LC-24/LC-24 Colour printers

£299.00/£349

Star

☎ 0494 471111

The 24-pin version of the LC 200, there is not a huge increase in print quality, which shows what a good machine the LC 200 is. It shares all the virtues of its little brother like a good range of emulations, electronic DIP switches and good standard of design. It's quieter too, but a bit on the pricey side.

Reviewed: 17, 25 STF Rating: 80%

LC-200

£304.00

Star

☎ 0494 471111

From the popular Star range comes this budget priced printer with the colour option built in. You can use a plain black ribbon cartridge if you are only printing text, or slot in the four colour one – both are supplied. Relatively simple manual to get to grips with. Futuristic styling – with rounded edges – and good design have gone into this machine, paper handling is very good, and the control panel is simple and logical. Generally, a very pleasing all-rounder at an affordable price.

Reviewed: 17 STF Rating: 80%

LQ-400

£203.00

Epson

☎ 0442 61144

Very similar to the Epson LX 400 in appearance, but with a very much better quality of print. Unfortunately, it's even noisier than the LX 400, and to use single sheets of paper you have to remove the tractor feed, which is rather inconvenient. However, the quality of printed text is clearly the best of this group, making it a good choice for word processing work.

Reviewed: 25 STF Rating: 85%

LX-400

£199.00

Epson

☎ 0442 61144

This is at the bottom of the Epson range, and can be picked up for around £140. You can't go very far wrong with the Epson name – the manual is good and the printer matches the Atari colour scheme. Despite all this, it's nothing to get excited about – it lacks proportional spacing (the ability to space individual letters according to their true width) and has one of the noisiest screeches you're ever going to hear when it's printing.

Reviewed: 17, 25 STF Rating: 75%

M-1309

£280.00

Brother

☎ 061 330 6531

The most expensive printer in the 9-pin section, but also the most highly specified. Stylish design, easy font selection and a wide range of emulations are on the plus side. Printed output is arguably no better than the less expensive Panasonic, so you have to decide if the extra features are worth the considerable price difference.

Reviewed: 25 STF Rating: 78%

M-1324

£378.00

Brother

☎ 061 330 6531

The second dearest 24-pin on test at about £247 in the shops, and like the Panasonic 24 pin, has electronic DIP switches. But it offers the largest number of fonts in this group – eight with Shadow and Outline enhancements also available for the text. This machine produces excellent graphics output, only bettered by the much dearer Citizen ProDot 24

Reviewed: 25 STF Rating: 85%

Paintjet printer

£1,169.00

Hewlett Packard

☎ 0344 369369

An unusual and specialised little printer which is widely used in the PC market for the production of high quality colour graphics. Not much ST software really takes advantage of its capabilities, perhaps this will change with the TT. It was the quietest machine tested, and at 180 x 180 dpi the text quality was good, but not very black. With the advent of colour DTP on the ST, it could come into favour.

Reviewed: 25 STF Rating: 80%

ProDot 24

£703.00

Citizen

☎ 0895 272621

This may be beyond the reach of many home users – being targetted at the professional/business market – but it's a good machine. It incorporates many advanced features, like a non-volatile memory enabling the storage of downloaded fonts and logos. The extra options like an auto sheet feeder and a colour conversion kit are not too expensive.

Reviewed: 25 STF Rating: 87%

SLM 605

£1,056.00

Atari

☎ 0753 533344

This replaces the older Atari SLM 804 laser printer and is smaller and a bit cheaper. We tested this running on a TT with hard disk and the impressive thing is the speed of printing, it knocks the others for six, taking only 25 seconds to print a page of *Protext!* Print quality is excellent, but it only works with STs/TTs, unlike others lasers which connect to any make of computer.

Reviewed: 25, 31 STF Rating: 89%

SQ 850

£903.00

Epson

☎ 0442 61144

A solid, well-built machine with a heavy price, advertised at about £550. More like a conventional printer in appearance than the other inkjets on test, but not up to their very high standards of output. Very fast text printing, and ten different fonts, but the output looks a bit spidery. A bit bulky for home use, but it's quiet and could be ideal for a small office.

Reviewed: 25 STF Rating: 73%

Swift 9

£280.00

Citizen

☎ 0895 272621

Providing competition for Star is this new model which offers colour via a plug on upgrade. Although this colour kit usually costs about £35, some dealers include it free. The general text quality is on a par with the Star LC 200, but its colour output is not quite so good. A little noisy, but switching and paper handling are good, and it's pretty fast on text. Available at discount prices.

Reviewed: 25 STF Rating: 87%

Swift 24

£433.00

Citizen

☎ 0895 272621

Selling for the same price as the Star 24-pin colour, this machine produces the best output of both text and graphics, but you may have to pay extra for the colour kit. The control panel switches are confusing on this one, and getting it to print in colour was difficult – the manual was not much help, either. Good specification, but not as useable as the other colour 24-pin printers.

Reviewed: 25 STF Rating: 75%

MONITORS

Monitors offer a staggering increase in picture quality over a television display, and, of course, some software only runs on a mono monitor. For a monochrome display, you're pretty much stuck with the (admittedly good) Atari model, but for colour you can do better than that.

Philips CM8833 Mk 2 (colour)

£219.00

Swift Micros

☎ 0582 476257

Philips turn these out by the million – they are attractive and well specified, and, with stereo speakers, it's just the job for your STE. Make sure you get the special monitor lead supplied.

Reviewed: 31 STF Rating: 90%

SC1224 (colour)

£260.00

Atari

☎ 0753 333441

Although this monitor is based on the Philips' chassis, it's generally not as well regarded as the CM8833 – the colours might seem a bit dark for the taste of some people, although the picture quality is good. Atari have just released a new version of this monitor.

Reviewed: 31 STF Rating: 84%

Atari SM144 (mono)

£139.00

Best Prices

☎ 0903 700714

Replaces the SM124 which was an excellent mono monitor for detailed work like desktop publishing work or word processing. Had a very crisp and steady monochrome display. Check out *ST FORMAT* in July to see if the new version is an improvement.

To be reviewed: issue 36

MUSIC

Making music on your ST is not a cheap hobby – once you've got the software you then need to shell out for the hardware. A keyboard, perhaps – then a sound sampler or two for those tacky "Ah yeah"s, some mixing equipment, a sound manipulation package so you can muck about with the samples. It won't be until you've got all this equipment that you'll be a star (who said anything about natural talent?). Bankrupt, but a star.

EVS-1 £299.00
Sound Tech ☎ 0462 480000
This budget priced rack-mountable synth module has 100 voices built-in and you can program and load in your own, too, using the supplied software. Has an excellent range of features for the price. Takes a bit of time to get used to the sound programming pages. Sounds good, but you need a MIDI keyboard to play it.
Reviewed: 15 STF Rating: 88%

Pro-Series 12 Sound Sampler £199.00
AVR ☎ 0582 457348
Aimed at the professional, this 12-bit input/output sampler sounds really good, and, despite being packed with features, it's very easy to use.
Reviewed: 16,30 STF Rating: 84%

Pro-Series 16-bit Sampler £350.00
AVR ☎ 0582 457348
The very latest 16-bit version of AVR's sound sampler, this one is the biz. You can sample at CD quality, manipulate and adjust the recordings with superb software – a deserved *FORMAT* Gold.
Reviewed: 25 STF Rating: 94%

Replay 8 Sound Sampler £79.95
Microdeal ☎ 0726 68020
This sound sampling add-on plugs into the ST's cartridge port and, using the phone sockets on

it, you can input sound and digitise it, or play it back. Sophisticated software control to manipulate samples included. Excellent results obtainable.
Reviewed: 18 STF Rating: 95%

Roland CF-10 Digital Fader £129.00
Roland ☎ 0792 700121
This touch sensitive ten channel MIDI mixer is designed to match other Roland modules like the CM 32 – you can set the level, and pan from left to right for most MIDI gear.
Reviewed: 17 STF Rating: 86%

Roland CN-20 Musical Entry Pad £129.00
Roland ☎ 0792 700121
Designed to complement the above, this is like an extra keyboard. Press small switches and nearly two octaves of these "keys" work along with a slider and octave switch to give an almost eight octave range.
Reviewed: 17 STF Rating: 87%

Sound Tools £2,050.00
Sound Technology ☎ 0462 480000
Incredibly powerful recording and editing tool – sample your song onto hard disk and remix it in the digital domain! Requires a Mega ST and a large capacity hard disk. The recording system of the future.
Reviewed: 28 STF Rating: 82%

Stereo Playback £29.95
Microdeal ☎ 0726 68020
This connects to the ST's cartridge port and delivers stereo sound via your hi-fi. Comes with demo software, including a drumbeat program. Less versatile than Monster Stereo Cartridge.
Reviewed: 22 STF Rating: 82%

Stereo Replay £89.95
Microdeal ☎ 0726 68020
A moderately priced sampler cartridge, records and playbacks in stereo. Includes excellent software and a MIDI compatible drum program.
Reviewed: 29 STF Rating: 89%

MICE AND JOYSTICKS

The Atari mouse becomes something of a dinosaur when you see what other makes are available. They're faster, easier to hold and they even look more attractive. And, of course, you're not going to get very far playing games without a joystick of some description. These come in all sorts of styles, from the plain and useful to the weird, extravagant and completely useless. Prices vary drastically, too, and more expensive doesn't always mean better.

Gravis Mousestick £70.50
RC Simul'n's ☎ 0272 550900
Whatever next? A programmable joystick. This impressive device is more responsive than a joystick and more accurate than a mouse. Includes analog to digital converters.
Reviewed: 24 STF Rating: 90%

Gravis Switch Joystick £39.99
RC Simul'n's ☎ 0272 550900
This robust joystick is slightly on the expensive side – although it's probably twice as good as a standard £10 stick, it does cost four times as

much! Has more features than most standard joysticks, like adjustable tension.
Reviewed: 27 STF Rating: 85%

Naksha Mouse £28.99
see page 46 ☎ 0458 74011
This 280 dpi mouse is a far better rodent than the dreadful Atari device.
Reviewed: 7,31 STF Rating: 88%

Power Mouse £14.95
Power ☎ 0234 843388
Good, cheap and rather attractive, ergonomic,

too. What more do you need?
Reviewed: 31 STF Rating: 79%

Quickshot 3 Plus Turbo joystick £12.91
Bondelle Europe Ltd ☎ 081 365 1993
Micro-switches and auto-fire.
Reviewed: 31 STF Rating: 77%

Sting-Ray joystick £13.95
Spectravideo ☎ 081 900 0024
Unusual handheld design with micro-switches.
Reviewed: 31 STF Rating: 81%

SCANNERS AND DIGITISERS

You can do things the hard way, and slave over your ST doing all your graphics yourself. Or alternatively you can cheat, and treat yourself to a scanner or digitiser. Scanners enable you to – well, scan printed pages and convert them into images that you can then use on your ST, and then manipulate them in a graphics package. Digitisers are devices that enable you to trace printed images by means of a puck – they're not quite as labour-saving as scanners but they do offer potentially better results.

Daatascan Pro £124.95
Pandaal ☎ 0234 857777
This hand-held scanner is one of the fastest and easiest to use. The hardware is comfortable to hold, and the software very direct. For the quick production of quality scanned artwork, you can't go wrong.
Reviewed: 15 STF Rating: 93%

Daatascan A4 Pro £499.95
Pandaal ☎ 0234 857777
For professional use, this machine scans a full A4 page of paper. The hand scanners only cope with a picture four inches wide. A motorised sheet feeder guides the page through automati-

cally. Excellent results – the printouts and on-screen images are detailed and consistent.
Reviewed: 23 STF Rating: 96%

Geniscan GS4500 £129.99
Datel ☎ 0782 744324
A hand scanner which has only two resolutions – 100 and 200 dpi – less than most of its competitors. Supplied with editing software and *OCF Advanced Art Studio*. Not STE compatible.
Reviewed: 9 STF Rating: 82%

Golden Image £149.00
Ladbroke ☎ 0772 203166
This scanner offers a good opto-mechanical

unit, plus outstanding scanning/editing software in the form of Touch-Up. Not as fast and direct to use as the Daatascan Pro, but a splendid buy.

Reviewed: 18 STF Rating: 95%

Mark 4 Cherry Digitiser £534.63
Cherry ☎ 0582 763100
This flat tablet takes up to an A3 size sheet of paper. Using a special pen or puck both supplied you can "trace" anything off the page into the ST. Works with any GEM software you have – great for DTP, CAD or drawing programs. An expensive, but quality device.
Reviewed: 29 STF Rating: 88%

MODEMS

With a modem you are able to get your ST to "talk" to other computers and bulletin boards over the phone lines using comms software, and upload or download files and programs. Modems offer you various levels of features and speed of use, from the simple ones that are very cheap, up to fast, expensive ones.

2400 modem £119.99
Supra ☎ 081 566 6677
A recent price cut has made the Supra 2400 modem more of a bargain than it already was. It also has the advantage of auto-dialling and auto-answer features and it is fully Hayes compatible. This American-made modem operates at 2400 Baud, and comes with a full five year guarantee.
Reviewed: 31 STF Rating: 90%

9600 Plus £349.00
Supra ☎ 081 566 6677
This latest model is the top-of-the-range. It is a V32 9600 Baud model, and is fully Hayes-compatible as well as auto-dialling and auto-answering. The Supra 9600 Plus comes with a connecting lead for your ST. Just watch out that in the excitement of playing with all the features you don't run up your phone bill too much!
Reviewed: 31 STF Rating: 84%

Fax modem £299.00
Atari W'kshop ☎ 0753 832212
What a good idea, a modem for your ST that not only enables you to do all the usual comms things, but also sends and receives faxes! Handles graphics as well as text – even screen-shots. Display to screen, save to disk or print out with software provided. You may need to add your own scanner to the system.
Reviewed: 31 STF Rating: 78%

MISCELLANEOUS GADGETS

There're always some, aren't there? Widgets which don't fit into any other category but deserve a mention somewhere. These gadgets aren't going to appeal to everyone but are undoubtedly useful and perhaps even invaluable for certain applications.

K.AT £69.00
Q Logic ☎ 0796 2001
This is a remote control unit which can be plugged into the ST and configured via a Desk Accessory to work up to 14 different keys. Its

main use is for working sequencer programs while far away from your ST – at your synth, for example. It's easy to configure, and then all you have to do is press the buttons.
Reviewed: 29 STF Rating: 82%

Met-2 Satellite Receiver £939.94
ICS ☎ 0903 731101
A special receiver, pre-amplifier and antenna plus the appropriate software enable you to receive, display and manipulate live weather pictures direct from the Meteosat satellite on your ST's screen.
Reviewed: 11

SIMM conversion £119.95
Evesham ☎ 0386 765500
Gives any STFM the ability to use Single Inline Memory Modules, a convenient form of plug-in memory chips.
Reviewed: 31 STF Rating: 86%

ST-IC £39.95
Romulus Data Systems, 2 Downs Grove, Southview Park, Basildon, Essex SS16 4QL
A technically clever – but practically not that useful – device which enables your ST to con-

trol all your infra-red remote control units, like your TV, video, and CD player. Works, most of the time, but has problems learning commands. After that, though, it's easy. Essentially, it's a remote control for your remote control.
Reviewed: 30 STF Rating: 61%

Teletext Adaptor £152.16
Microtext ☎ 0705 595694
Instead of watching your TV to see the CEEFAX or ORACLE, you can use this device which enables you to not only display teletext pages on your monitor, but also save them to disk.
Reviewed: 5 STF Rating: 81%

RICOH LP1200

Ricoh UK Ltd is part of the worldwide Ricoh Group of companies, originally established in Japan, in 1936. With a turnover of over \$5 billion and 37,000 plus employees, Ricoh has been producing computers and peripherals since 1971. They are renowned in the industry as pioneers in the field of Office Automation Equipment and have won many awards for outstanding industrial design. Ricoh have employed all their expertise to produce a 'first' in laser printers for the worldwide market, the LP1200 with FLASH ROM.

Fully HP LaserJet III™ compatible, the new LP1200 laser printer has 2Mb of RAM built-in and requires no additional RAM to print a full A4 page of graphics. Its fast, efficient processor and engine, together with straight paper path design, allows printing at a full 6 pages per minute. Unlike its competitors, this advanced laser engine enables the LP1200 to address a range of print resolutions up to 400dpi. A printer driver is scheduled for release in late April, to enable the Ricoh LP1200 to print at 400dpi from Windows 3.

Again, unlike the competition, the LP1200 includes a powerful document description language as standard. This language, 'LAYOUT', offers unique opportunities to develop custom-made printing systems. In particular, forms and document templates can be designed and stored electronically in the LP1200's unique FLASH ROM, alleviating the need for pre-printed forms!

UNIVERSAL FEEDER
SHOWN NOT INCLUDED
REF: LAA 5238
RRP: £135 +VAT



Don't just take our word for it,
see for yourself how the
RicoH LP1200 compares
to the competition!

FEATURES	EPSON EPL4100	HP LASERJET III	MANNESMAN TALLY MT904+	RICOH LP1200
Average Street Price (*expected)	£569	£699	£699*	£699
Official RRP	£945	£1,179	£1,099	£1,195
Maximum resolution in dots per inch	300x300	300x300	300x300	400x400
Windows 3 Driver @ 400 dpi (April)	-	-	-	YES
Print Speed	6ppm	4ppm	4ppm	6ppm
Straight Paper Path	YES	-	-	YES
PCL 5 Printer Command Language	-	YES	YES	YES
HP-GL/2 Vector Graphics included	-	YES	YES	YES
Resolution Improvement/Enhancement	YES	YES	YES	YES
Full A4/300 dpi graphics with standard RAM	-	-	-	YES
Warm Up Time	<45 secs	<60 secs	60 secs	45 secs
First Page of Text Output	<20 secs	<40 secs	34 secs	<15 secs
Page Description Language (PDL) included	-	-	-	YES
Flash ROM	-	-	-	YES
Upgradable Firmware	-	-	-	YES
IC Card Slot	YES	-	-	YES
Scalable Resident Fonts - in HP LJ III Emulation	-	8	8	8
Resident Bit-Mapped Fonts	11	14	14	14
AGFA Intellifont Scalable Font Technology	-	YES	-	YES
HP LaserJet III Emulation Included	-	YES	YES	YES
EPSON FX Emulation Included	YES	-	YES	YES
IBM ProPrinter Emulation Included	-	-	YES	YES
Standard Tray Capacity	100	70	100	100
Protective cover on standard tray	YES	-	YES	YES
Cost per copy*	1.65p	1.58p	1.67p	1.59p
Min-Max Paper Weight in gsm	60-157	60-105	60-120	60-157
Ability to print on OHP Film	YES	YES	YES	YES
Ability to print on card (157gsm - Manual Feed)	YES	-	-	YES
Auto Sensing on Parallel and Serial ports	YES	-	-	YES
Standby - Noise Level	<40dB	31.7dB	<35dB	<38dB
Printing - Noise Level	<50dB	43.3dB	<46dB	<48dB

*Based on full RRP @ 5% toner coverage E & DE

All Trademarks are acknowledged

NEW! PCL5

FLASH ROM UPGRADABLE!

LASER PRINTER

400dpi 2Mb RAM 6PPM

FULLY HP LASERJET III™ COMPATIBLE

Silica Systems are pleased to introduce the revolutionary, new Ricoh LP1200. It has all of the specifications that you would expect to see in today's most technically advanced laser printer, plus a unique additional feature which places it far ahead of the competition - FLASH ROM. This 'Future Proof' technology protects the investment you make when you buy a Ricoh LP1200, as it enables you to keep up to date with new laser firmware developments. FLASH ROM is an area of memory inside the LP1200 which holds the printer's controller instruction firmware. If new firmware is developed, updated printer command languages etc, can be downloaded into this memory. Other manufacturers would require you to buy a new printer! Fonts, macros, additional emulations and graphics can also be stored in FLASH ROM, or on removable FLASH ROM IC cards. The new Ricoh LP1200 is the only laser printer to offer this FLASH ROM facility.

- 6 PAGES PER MINUTE
- PCL5 - SCALABLE FONTS
- FINE IMAGING ALGORITHM
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Twilight zone

Good issue, wasn't it? We especially liked pages 107, 23, and 78. 143 was a bit of a scorcher, too. Did you spot the deliberate mistake somewhere in the issue, though?

We didn't, which is why it's there. Anyway, here's the final bit for this month

MARCH QUIZ

Back in *STF* 32, the prize on offer was that marvellous marvellous bit of kit, a 2MByte memory upgrade from Frontier Software – plus, of course, 50 of those handy time-saving time-setting devices, the Forget-Me-Clocks. But first:

MARCH ANSWERS

1. What's the usual upper limit point size of a font in *Timeworks Publisher 2*? **40 point**
2. What does Sylvia Hadford work for? **The Bureau of Astral Troubleshooters**
3. Into which port do you plug the Forget-Me-Clock cartridge? **The cartridge port. (Amazing!)**
4. How many seconds to go before you get "a nasty crack on the head"? **23**
5. Disk Three offers a day in which soap opera city? **Dallas**
6. What's only fun from 10am until lunch? Yes, very funny. Thanks for the suggestions. However, the answer we wanted was **Thunderjaws**
7. How many generations of PC is Benson? **Nine**
8. What's the maximum size you can increase your ST's memory to? **4MBytes**
9. How long do the Bullfrogs think their "mystery game" will take to write? **Two years**
10. What sort of book is *Atzenta 2*? **An electronic address book**
11. In which issue did we review *The Official Everton Football Club Intelligentsia*? **Issue 14**
12. What does Dougal have a passion for in "The Magic Roundabout"? **Sugar lumps**
13. What was H P Lovecraft's home and birthplace? **Providence, Rhode Island. And yes, we had thought of all the risqué double meanings of "lovecraft." Oh dear oh dear...**

14. Nick Brown sold a reasonable number of his flight simulation program for the BBC Micro. How many is "reasonable"? **27,000**
15. How many seconds of animation is *Imagic*? **No less than 45**
16. Who did Volkswagen France want to mock up an advert for them? **Mike Marchant**
17. How many page numbering formats does *Timeworks Publisher 2* have? **Four**
18. What's the standard screen size in K of an ST screen? **32K**
19. So you're rich in *Mercenary 3*. But rich to the tune of how many credits? **51 million**
20. What was the name of the character in "Monty Python's Flying Circus" who wore wellies and had a handkerchief on his head? **It was of course Mr Gumby. We knew we could rely on your intimate knowledge of British culture...**

MARCH WINNERS

The proud winner of the 2MByte memory upgrade turned out to be none other than **Shaun Sefton of Stockport in Cheshire.**

Slightly less excitingly (but still quite excitingly) those runners-up are: **S Forbes of Tayside; J Hendy of Devon; C M March of Surrey; Neil McManus of Edinburgh; Andrew Smith of Surrey; Joe Lister of Bristol; David Lewis of Merseyside; Paul Preston of Whitby; John Gomez of Gloucestershire (the Gomezes are an old Gloucestershire family, don't y'know); F Ratcliffe of Lancashire; David Williams of Cheshire; S Hilson of Bristol (sponsored by Mars, it seems); Paul D McMullen of South Yorkshire; Brian McCaig of Strathclyde; P Bramley of Edinburgh; Carol**

Williams of Cheshire (a girl! a girl!); T H Weatherill of Hampshire; W McDowell of Glasgow; Robert Curtis of Devon; A M Kay of Wigan; Saul Marchant of Southampton; Gerald Roberts of Weston-super-Mare; D Wombwell of Kent (nice name, D); Alan Goldswain of Kent; Tom Teague of London; John Quinn of London; M Murphy of Leicester; D E Oldfield of Dorset; Dale Thompson of East Sussex; Dale Cooper of Twin Peaks (ho ho ho); Joe Button of Norfolk; Tristan Luscombe of Devon; Steve Boulton of Gloucestershire; K C Williamson of Cheshire; E Lodge of Essex; David Walton of Norfolk; Philip Pendleton of Middlesex; (isn't that 50 by now? Let's have a look: one, two, three... oh, all right, then); Nick Downham of Bristol; Brian Daly of Glasgow; Craig Oldfield of Manchester; Ian McGowan of North Humber-side; Peter Stirling of Glasgow; Simon Rogalski of Lincoln; John Worthington of County Durham; Bill McCarthy of West Lothian; Andrew Green of Sheffield; A J Hearn of Catterick (A J Hearn – sounds like a famous writer, doesn't it?); James Hilton of Cambridgeshire; Chris Clarke of East Sussex; P M Roffey of Kent; J C Clark of Leeds; and last and possibly least (though, of course, we're in no position to judge anyone's character on the strength of a name alone, and we're not implying anything at all, just suggesting it as a possibility) **Paul Murphy of Herts. Can I go home now? Eh? What do you mean "February"? Oh no...**

FEBRUARY COMPETITION WINNERS

Well, this was certainly, er, interesting. You may remember the task at hand was to write a song using *Sequencer One* (given away with *STF* 30) and the samples on Cover Disk 31. Up for grabs were a Roland PC-200 keyboard and a CM-300 sound module, whatever that is.

We received around 40 entries and had the fascinating experience of listening to every one of them. Some were discounted straight away because they were pure MIDI (no good for those without a synth) and others were discounted too because – well, they weren't really very good. Sorry, but that's the naked truth.

Everyone in the office had some personal favourites, though we'd never admit

it sober. The Finnish entry that ended up among the runners-up went down very well with one member of the team (who remains nameless to protect her street cred), while another anonymous person admitted to liking a Camberwick Green-style entry which also became a runner-up.

In the end, though, it was pretty unanimously decided that the unfortunately-titled *My Fingers Are On Fire* from **Roy McCormack of North Yorkshire** deserved the prize. We felt that it, more than any others, "hung together" – that is, it had the elements of a successful piece of music (melody, a direction, that sort of thing) and was a coherent whole rather than a disparate collection of parts. Which

is a roundabout way of saying it really was very good indeed. Hear it for yourself – it's on the Cover Disk.

There were ten runners-up, each of whom can expect to find a gorgeous Gajits T-shirt coming through the letterbox soon, and these august persons are: **Conrad McGarty of Cheshire; J Scotcher of West Sussex; Tobi Wood of Renfrewshire; Jan Holmgren of Lidingö in Sweden (everyone knows Sweden is the groovy place to be); Stephen Percy of South Glamorgan; Pekka Fäldt of Espoo in Finland (we're not making it up, honest); John Blackwell of Somerset; G B Savage of Leeds; Julian Alford of Exeter; and Gavin Day of Suffolk. Er, kickin', chaps and chapettes.**

SPONGER'S CORNER

Many thanks to James Marshall of Norfolk for dropping us a line. His letter starts innocuously enough by informing us that he runs a magazine for his school covering ST games. After some more wibble we get to the real point of his letter:

"I don't get any money, so I can't afford to buy games to review. Will you or can you send me any of the latest games?"

Yeah, sure, James. Even better, we'll send all the games we receive straight on to you, and you can send us your reviews of them. Then we can publish them, pay you for doing it, you can keep the games and everyone's happy! Sounds like a good idea, eh? And hey, don't worry about all that "I will pay P&P" nonsense – it's on us, okay?

While you're at it, why not start a film review section in your magazine? That way you can write to Barry Norman and ask him to send you all the films he covers on his telly program. Or why not try *What Car?* We're sure they've got loads of old review cars hanging around that they're desperate to be rid of.

(Ed's note: right, that's one reader down. Just another 65,201 to go.)

FOR US?



● Happy birthday to us... Aww, you shouldn't have. Thanks very much to Ian Seddon of Warrington who sent us this goooooorgeous third birthday card. A few months early, perhaps (*STF*'s first issue was dated August 1989), but it's the thought that counts. The inscription reads "To someone very special, who is three years old today, a birthday wish for lots of fun and happy games to play." Fair chokes you up, it does.

But he was the only one. Where were the rest of you? You never write, you never phone (well, actually you do, especially on Wednesday afternoons). Sometimes we feel that maybe you just don't care. At least Ian likes us.

BIGGER, BETTER, MORE NEXT MONTH

You've reached the end of another issue, but don't worry, your life needn't finish yet – we've got even more goodies lined up for you next month. Another second Cover Disk tops the bill. Last month we gave away *Write On*, a complete £50 package, this month it was *GFA Draft Plus 3* worth £100, and next month it's going to be another complete commercial package. As if that's not enough, we're also giving away the complete *GFA Basic 3.7* on our main Cover Disk (assuming no acts of God get in the way).

Our recent reader survey (analysed on page 157) turned up the fact that 40% of you either owned or wanted to invest in memory upgrades, so next month there's be a complete step-by-step guide to installing your own upgrades. For most STes this is a simple job of plugging in a chip, but if you own an older style STFM, then you may have to solder the chip in. We take you through the tricky process of upgrading your ST, point out the pitfalls to watch for and tell you where you can get it fixed if your DIY efforts all go horribly wrong.

Then we're interviewing Jeff Minter, the crazy hippie responsible for maddeningly addictive games like *Revenge of the Mutant Camels* (on Cover Disk 31) and *Llamatron* (Cover Disk 24). We find out why he decided to distribute his games through Shareware and discover how much money he made using this unique "pay what you think it's worth" method of selling his games.

Your ST is a pretty solitary beast – how often do you give it the chance

to talk other machines? If it were a child, Esther Rantzen and her Child-line team might come round and threaten to lock you up for depriving it. Next issue we show you how you can introduce your ST to some new friends. A modem, a lead and a piece of comms software are all you need to start chatting to other ST owners all around the world. In no time at all you can start collecting masses of Public Domain software, exchanging useful tips and even playing multi-user games. We take a detailed look at everything you can do, examine the kit you need and explain the process of getting your ST to communicate with other machines.

Another point that emerged from our survey results was that many of you wanted more programming in the magazine. Starting next month we're running a GFA programming series teaching you how to program your own fractals. There's a wealth of kaleidoscopic patterns and shapes you can achieve with very simple formulae – we show you exactly what you can do on your ST. Hosted by Conrad Bessant, author of *Computers and Chaos*, the series includes *GFA Basic* listings on the Cover Disk, so there's no need to type program code into your ST. *GFA Basic v3.7* on the Disk will tie in with the feature.

In addition, there's an even bigger Buyer's Guide section, more Public Domain programs reviewed and rated, even more helpful advice in ST Answers and another gargantuan grab of games. Whatever you do, don't miss it! We're not Britain's best-selling ST magazine for nothing!

NEXT ISSUE OUT THURSDAY 14 MAY

Can't find ST FORMAT?

No surprise – Britain's top ST magazine is regularly selling out – in some places, before you even get in the newsagent's door on the official on-sale date.

So, if there isn't a copy on the shelf, ask for *ST FORMAT* by name. There may be more in the back room. If not, check a big newsagent like John Menzies or WH

Smith. If you don't want to subscribe – but see page 62 for some good reasons why you should – fill in the form below and hand it to your newsagent, who'll be delighted to reserve you a copy.

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LOVE THOSE MEECES

Wait! Wait! Hold everything! Logitech ("the world's leading expert in computer pointing devices," remember) have just announced a "revolutionary" new mouse. So what does this wonder beastie do? Does it have a built-in joystick? Does it work by infra-red? Does it intuitively sense where you want to go next and position itself there?

Pah. It's better than all that. For the new Logitech mouse, designed exclusively for children, is (wait for it) in the shape of a mouse. Yes indeed, your child can become even more confused about computers when you give it a mouse that actually looks like one. Logitech's Research and Development team has made it as "mouse-like" as possible – that is, it's grey and it's mouse-shaped.

And just so little Johnny/Jennifer can get a good obsession going about his/her ST bits from an early age, each mouse comes with a specially-designed birth certificate, so the kid can give the mouse a name. But where's the box to bury it in when it dies?

If you do want one of the critters, they're £35 from Logitech on ☎ 0344 891313. Alternatively, nip down the pet shop, buy a mouse and – well, you can probably guess the rest.

Gratuitous cheesecake? Never!

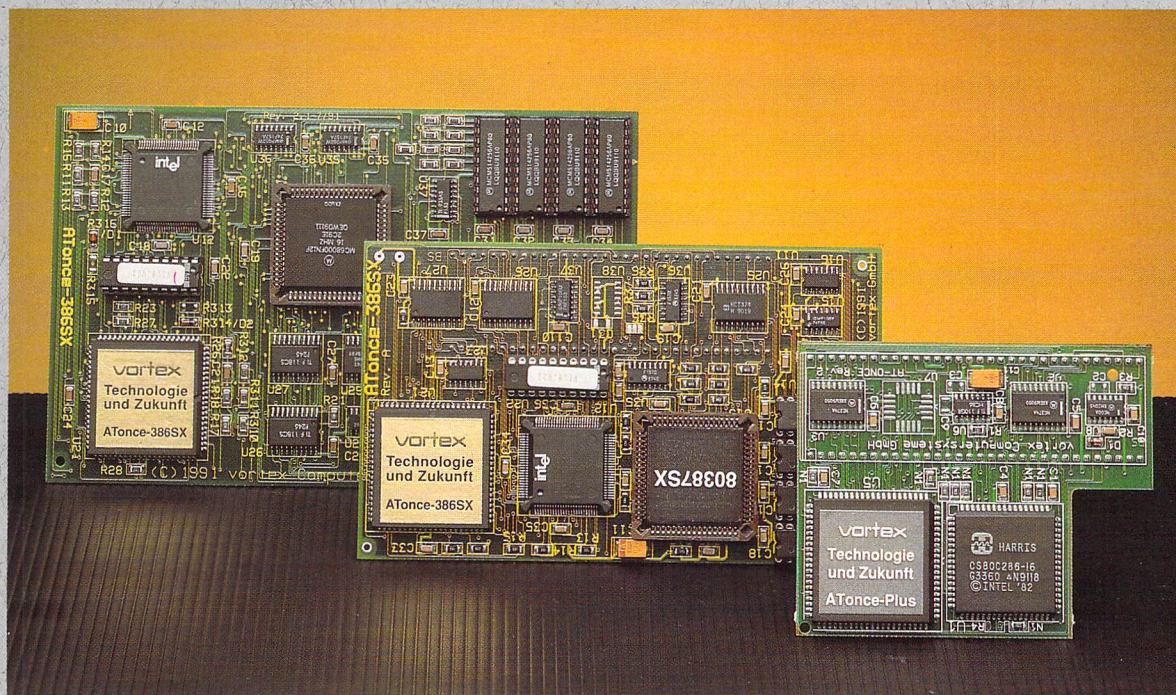


We got a flood of complaints about last issue's News pic of a bimbo on a motorbike who apparently wasn't intelligent enough to figure out how to zip up her leather jacket. Well, not quite a flood. Our Publisher just got a little tearful – something about how it brought back his younger days... Anyway, this is different. It's our policy to – er, cover new ST games, so we just had to show you *Cover Girl Poker*, a brilliant new game concept distributed by The Sales Curve ☎ 071 585 3308. Next month: a full report on the *Daily Sport's* "computer" pages.

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